


STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 3

AMENDED REPORT ☐**APPLICATION FOR PERMIT TO DRILL**

2. TYPE OF WORK DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>				1. WELL NAME and NUMBER Rough Canyon Federal 30-1		
4. TYPE OF WELL Oil Well Coalbed Methane Well: NO				3. FIELD OR WILDCAT WILDCAT		
6. NAME OF OPERATOR WOLVERINE OPERATING COMPANY OF UTAH, LLC				5. UNIT or COMMUNITIZATION AGREEMENT NAME		
8. ADDRESS OF OPERATOR 1140 N. Centennial Park Dr., Richfield, UT, 84701				7. OPERATOR PHONE 435 896-1943		
10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE) UTU-82536		11. MINERAL OWNERSHIP FEDERAL <input checked="" type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>		9. OPERATOR E-MAIL ciron@wolvgas.com		
12. SURFACE OWNERSHIP FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>				13. NAME OF SURFACE OWNER (if box 12 = 'fee')		
14. SURFACE OWNER PHONE (if box 12 = 'fee')				15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')		
16. SURFACE OWNER E-MAIL (if box 12 = 'fee')		17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')		18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS YES <input type="checkbox"/> (Submit Commingling Application) NO <input checked="" type="checkbox"/>		
19. SLANT VERTICAL <input type="checkbox"/> DIRECTIONAL <input checked="" type="checkbox"/> HORIZONTAL <input type="checkbox"/>						
20. LOCATION OF WELL	FOOTAGES	QTR-QTR	SECTION	TOWNSHIP	RANGE	MERIDIAN
LOCATION AT SURFACE	288 FNL 452 FWL	NWNW	32	17.0 S	1.0 E	S
Top of Uppermost Producing Zone	1830 FSL 810 FEL	NESE	30	17.0 S	1.0 E	S
At Total Depth	1830 FSL 810 FEL	NESE	30	17.0 S	1.0 E	S
21. COUNTY SANPETE		22. DISTANCE TO NEAREST LEASE LINE (Feet) 810		23. NUMBER OF ACRES IN DRILLING UNIT 40		
24. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed) 0		25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed) 0		26. PROPOSED DEPTH MD: 12800 TVD: 12400		
27. ELEVATION - GROUND LEVEL 6171		28. BOND NUMBER BLM WYB000616		29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE 63-3169		

ATTACHMENTS**VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES**

<input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER	<input checked="" type="checkbox"/> COMPLETE DRILLING PLAN
<input type="checkbox"/> AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)	<input type="checkbox"/> FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER
<input checked="" type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)	<input checked="" type="checkbox"/> TOPOGRAPHICAL MAP
NAME Charles Irons	TITLE Senior Landman
SIGNATURE	PHONE 435 896-1943
API NUMBER ASSIGNED 43039500030000	DATE 04/20/2010
APPROVAL	EMAIL ciron@wolvgas.com
 Permit Manager	

Proposed Hole, Casing, and Cement						
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		
Cond	26	20	0	1200		
Pipe	Grade	Length	Weight			
	Grade J-55 Buttruss	1200	106.5			

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Proposed Hole, Casing, and Cement						
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		
Surf	17.5	13.375	0	4000		
Pipe	Grade	Length	Weight			
	Grade J-55 Buttrress	4000	68.0			

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Proposed Hole, Casing, and Cement						
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		
I1	12.25	9.625	0	10100		
Pipe	Grade	Length	Weight			
	Grade L-80 LT&C	6000	53.5			
	Grade P-110 LT&C	4100	53.5			

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Proposed Hole, Casing, and Cement						
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		
L1	8.5	5.5	0	12800		
Pipe	Grade	Length	Weight			
	Grade N-80 LT&C	4700	20.0			

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WOLVERINE OPERATING COMPANY OF UTAH, LLC

Energy Exploration in Partnership with the Environment



April 20, 2010

Diana Mason
Permitting—Petroleum Technician
Utah Division of Oil, Gas and Mining
P.O. Box 145801
Salt Lake City, Utah 84114-5801

Re: Application for Permit to Drill (Utah ePermit #2558)
Rough Canyon Federal 30-1
Surface location in NW/4 NW/4, Section 32, T17S, R1E, SLB&M
Bottom hole location in NE/4 SE/4, Section 30, T17S, R1E, SLB&M
Sanpete County, Utah

Dear Mrs. Mason:

Wolverine Operating Company of Utah, LLC (Wolverine) hereby submits this letter with the accompanying e-Permit materials, as part of the *Application for Permit to Drill* (APD) for the referenced well:

- R649-3-11 Directional Drilling Application Plat showing proposed surface location and bottom hole location;
- Letter of consent to Wolverine's directional drilling program, signed by the owners of Oil and Gas Lease #UTU-84043;

A lease of water rights from a private owner (Water Right #63-3169) will be the source for water during drilling and completion operations on this proposed well.

The proposed well is located on SITLA administered surface under Special Use Lease Application #1680. A portion of the wellbore path will cross BLM administered subsurface (off lease) in the SW4SW4 of Section 29-T17S-R1E, before entering Section 30 (Wolverine's Federal lease #UTU-82536).

This letter and the accompanying plat are also intended to serve as an application for directionally drilling the well per R649-3-11. Wolverine is the owner, or has obtained the consent of the owner, of all oil and gas within 460 feet from all points along the intended wellbore for the well. Information relating to R649-3-11 is as follows:

Operator: Wolverine Operating Company of Utah, LLC

Address: 1140 N Centennial Park Drive
Richfield, Utah 84701

Well: Rough Canyon Federal 30-1

Field: NA (Wildcat)

Reservoir: NA (Wildcat)


County: Sanpete

Reason: Restrictive topography and to minimize surface impact

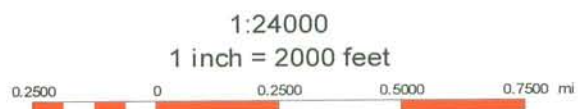
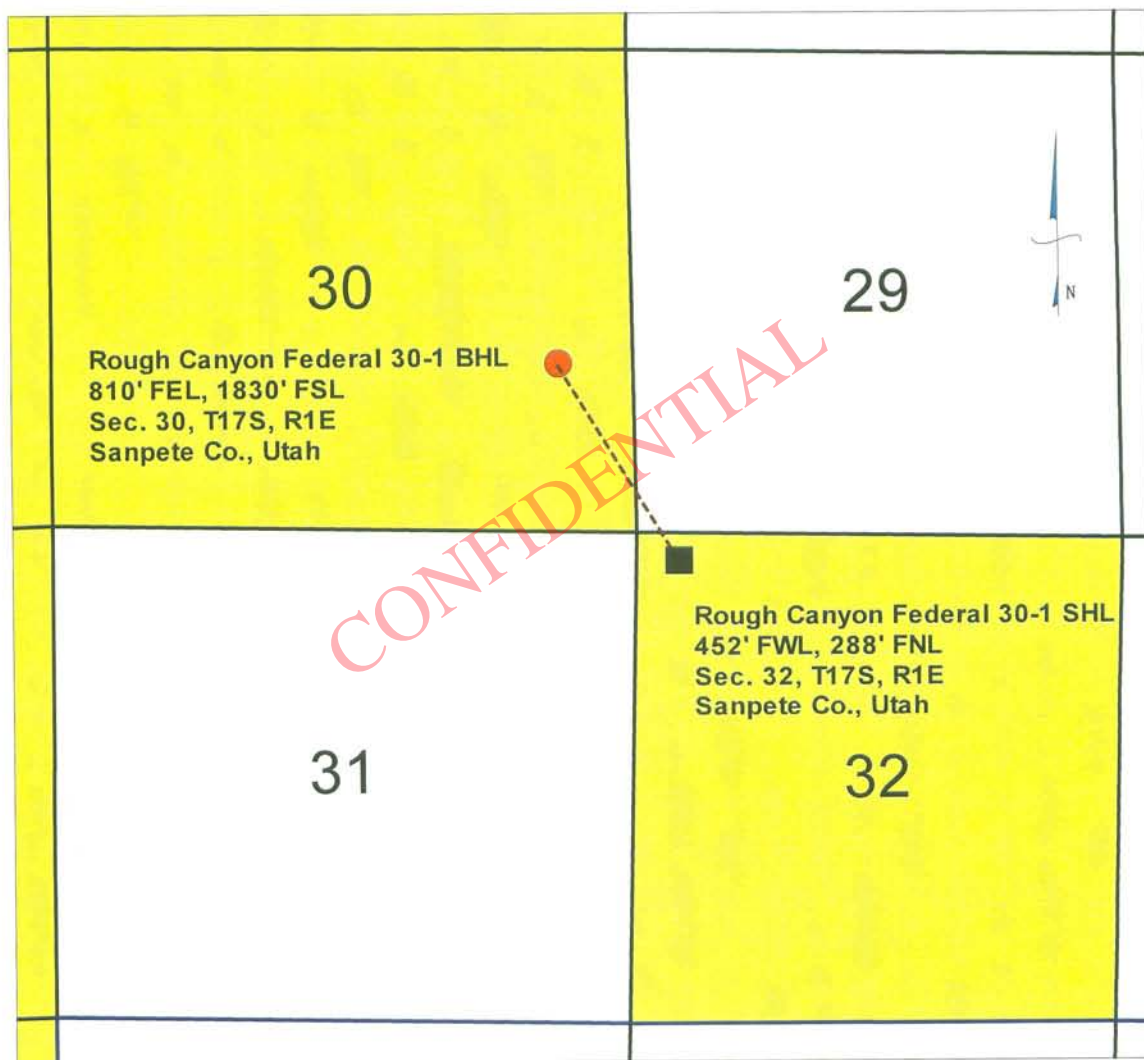
Please accept this letter as Wolverine's written request for confidential treatment of all information contained in and relating to this application and proposed well.

Thank you for consideration of this application. Please feel free to contact me or Paul Spiering of this office if you have any questions or need additional information.

Sincerely,



Charlie Irons
Senior Landman



WOLVERINE GAS & OIL CORPORATION
Energy Exploration in Partnership with the Environment

ONE RIVERFRONT PLAZA
55 CAMPAU, N.W.
GRAND RAPIDS, MI 49503-2616
(616) 458-1150

Directional Drilling Application Plat (R649-3-11)
Rough Canyon Federal 30-1 Well Location

Date: 4/14/2010

Data Source: mjl rough canyon

APR-20-2010 12:17 From:Marsh Office - NY

6666

April 19, 2010

Utah Division of Oil, Gas and Mining
Attn: Mr. Brad Hill, Oil and Gas Permitting Manager
P.O. Box 145801
Salt Lake City, Utah 84114-5801

Re: Wolverine Gas & Oil APD #2558 of the Electronic Permitting System

Dear Mr. Hill:

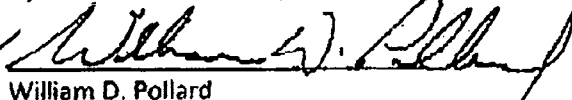
The undersigned are the current lessees under federal oil and gas lease #UTU-84043 covering the W/2, SE/4 & S/2NE/4 of Section 29 & All of Section 31, T17S, R1E, SLM, Sanpete County, Utah.

Wolverine Gas & Oil Corp. is planning a directional drilling program for their Rough Canyon Fed. 30-1 well that is planned to be drilled from a surface location in the NW/4NW4 of Section 32, T17S, R1E with a projected bottom hole location in Section 30, T17S, R1E.


As lessees under UTU-84043, we hereby consent to Wolverine's direction drilling program as required in R649-3-11 of the Utah Division of Oil, Gas & Mining rules and regulations.

Sincerely,

Burnett Oil Company
By: Burnett Oil Co., Inc., Managing General Partner

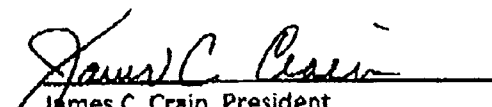

William D. Pollard
President

Pioneer Natural Resources USA, Inc.


Robert C. Hagens, Vice-President, Land

Tecovas Partners III, L.P.

By: Marsh Operating Company, General Partner


James C. Crain, President

SURFACE USE PLAN OF OPERATIONS

For inclusion with Application for Permit to Drill

Name of Operator: Wolverine Operating Company of Utah, LLC
Address: 1140 N. Centennial Park Drive
Richfield, Utah 84701

Surface Well Location: **Rough Canyon Federal 30-1**
288' FNL & 452' FWL, (being in NW4/NW4)
Section 32, T17S, R1E, SLB&M
Sanpete County, Utah

Bottom Hole Location: 1830' FSL & 810' FEL, (being in NE4/SE4)
Section 30, T17S, R1E, SLB&M
Sanpete County, Utah

Access Road Location: Existing two-track road leads from Highway SR 28 Easterly across the S2SE Section 1-T18S-R1W and across the W2W2 Section 6-T18S-R1E to the mouth of Rough Canyon in the SWSW Section 31-T17S-R1E. A new road is proposed to be built Northeasterly through Rough Canyon to the East line of Section 31. A Title V right-of-way application is being submitted to the Richfield BLM office covering both above existing road and new road. The portion of the lease road continuing into Section 32 will be constructed under terms of an Easement from State of Utah School and Institutional Trust Lands Administration (SITLA) and the well pad will be constructed under terms of a Special Use Lease from same.

Fee surface use is not required for construction and drilling of the referenced well and access road. State surface use is required for construction of the well pad and that portion of the access road that is situated in Section 32-T17S-R1E. Federal surface use for access is being requested with the associated Title V Right-of-Way application through the BLM – Richfield Field Office.

The dirt contractor will be provided with an approved copy of the surface use plan of operations and conditions of approval before initiating construction.

Existing Roads:

The vicinity map in the APD drawing packet shows the proposed well location east of Highway SR28 in the Sanpitch Mountain range. The closest town is Fayette, Utah (well location being 5 miles North-northeast of Fayette).

Driving directions: From Gunnison, Utah, travel north on SR 28, under Utah Department of Transportation (UDOT) maintenance approximately 8.5 miles to a driveway on the East side connecting the highway to a two-track road. Proceed through the gate Easterly, thence Northerly a distance of about 1.42 miles on said two-track to its terminus near the mouth of Rough Canyon. Continue Northeasterly up the narrow canyon on a to-be-constructed new road a distance of about 1.38 miles to the Section 31 east line and SITLA boundary. Continue into Section 32 on SITLA land a distance of 700+ feet to the Rough Canyon Federal 30-1 well pad.

Access Roads to be Constructed and Reconstructed:

The surface condition of the existing two-track road is not adequate to bear rig-related traffic and will require improvement. The width of the traveled way will be increased from about 8 feet+/- to 12 feet, and 8 foot wide vehicle turnouts will be constructed at strategic points to allow trucks to pass. See drawing sheets TS-01 (Type 2 Typical Section) and TS-02 in the Right-of-Way application for detail on existing road improvements. Details on

areas of construction are shown on sheets PP-01 through PP-04 of the Right-of-Way application.

From the mouth of Rough Canyon to the BLM-SITLA land boundary, a new road will need to be constructed, following the meander of the bottom of the wash, a distance of 7,295.32 linear feet (1.38 miles). Due to the tight turns and confinement of the canyon walls the traveled way of this road will need to be a minimum of 14 feet; with extra width of up to 40.2 feet on curves. The roadbed will be fortified with untreated base course and granular borrow taken from the existing community gravel pit referenced below under *Construction Materials*. See drawing sheets TS-01 (Type 1 Typical Section) and TS-02 for detail on new road construction. Details on areas of construction are shown on sheets PP-04 through PP-14 of the Right-of-Way application. Best management practices will be used in all stages of design and construction.

The continuation of the new road into Section 32 (SITLA land) to the well pad will be constructed under authority of an easement from SITLA. Details of construction for that portion of the lease road are included in the APD packet submitted herewith. The well pad will be constructed under authority of a Special Use Lease from SITLA (Application #1680) and details of pad layout and construction design are also included in the APD packet.

Total length of the improved portion of the road across BLM land is 1.42 miles. Total length of new constructed access road is 1.52 miles (being 1.38 miles across BLM land and .14 mile across SITLA land).

Road construction, operation and maintenance will be in compliance with the terms and conditions of the BLM and SITLA Conditions of Approval, the American Association of State Highway and Transportation (AASHTO) safety standards, and will meet criteria for the Manual of Uniform Traffic Control Devices (MUTCD) manual for signs.

Energy dissipating structures and silt fences will be utilized to minimize erosion that may result from the road construction.

The Operator intends to install a cattle guard in addition to the gate near where the existing two-track road enters the highway. The cattle guard will be installed in the existing fence opening and the gate will be reinstalled to the side.

All existing roads and the new road will be maintained and kept in good repair during all phases of operation. Vehicle operators will obey posted speed restrictions and observe safe speeds commensurate with road and weather conditions.

Equipment to be used in construction will consist of conventional heavy equipment, including bulldozers, scrapers, excavators, backhoes, compactors and water trucks. In the event rock blasting is necessary in excavation a certified blaster will be called in to perform the operation on an as-needed basis. All applicable regulations, including those of the Bureau of Alcohol, Tobacco and Firearms, will be followed for the use of explosive materials. No explosives will be stored on site. Boulders that are exposed by excavation, that cannot be broken up and used as aggregate, will be buried in the right-of-way, unless otherwise requested by the Authorized Officer.

Location of Existing Wells within a one-mile radius :

There are no wells (oil, gas, water, injection or disposal, producing or being drilled) within a one-mile radius of the proposed location.

Location of Existing and/or Proposed Facilities if Well is Productive:

(a) *On well pad* – A temporary testing facility may be constructed on this location in the event drilling is successful, consisting of treater/separator, tanks and related components. The facility would be surrounded by a dike of sufficient capacity to contain the storage capacity of the largest tank. All loading lines and valves would be located inside the berm surrounding the tank battery.

(b) *Off well pad* – It is not possible to know whether an off-well pad production facility would be necessary in the event of a discovery. In the event such a facility is needed a site closer to Highway SR 28 would potentially be used for collection, treating and load-out. The Operator will submit this information for approval at such time as production requirements are known.

Location and Type of Water Supply (Rivers, Creeks, Lakes, Ponds and Wells):

The Operator intends to lease water rights from a private water right owner: water right number 63-3169. This will be done by temporary change order through the Utah Division of Water Rights office in Richfield, Utah. Water will be drafted from the Sevier River at a load-out point tentatively located in the NE4 of Section 2-18S-1W, subject to

change, depending on the level of the reservoir at the time of need. Should additional water sources be pursued they will be properly permitted through the State of Utah – Division of Water Rights. The BLM will be notified of any changes in water supply.

Construction Materials:

Natural earth materials used for fill on the well pad will be taken from cuts made in construction of the pad. Imported granular borrow from an approved source will be applied to the surface of the well pad and access road where deemed necessary. The roadbed will be fortified with granular borrow taken from an existing community gravel pit that is located nearby. An application for mineral materials sale for that purpose is being submitted concurrently with this APD. If additional materials are needed they will be taken from an approved source.

Methods for Handling Waste Disposal:

The reserve pit will be used for the disposal of waste mud and drill cuttings. All borehole fluids and salts will be contained in the reserve pit. It will be located in cut material and will be lined with 12 mil minimum thickness plastic nylon reinforced liner material. The liner will overlay a felt liner pad only if sharp rock edges result from excavation. The pit liner will overlap the top of the pit walls and be covered with dirt and/or rocks to hold it in place. No trash, scrap pipe, etc. that could puncture the liner will be disposed of in the pit. Pit walls will be sloped no greater than 2:1. A minimum 2-foot freeboard will be maintained in the pit at all times during the drilling and completion operations. After evaporation of fluids, back-fill of sub-soil and compaction to prevent settling will occur within 90 days of cessation of pit use. If necessary, any remaining fluids will be pumped out of the pit and transported off site.

No chemicals subject to reporting under SARA Title III (hazardous materials) in an amount greater than 10,000 pounds will be used, produced, stored, transported, or disposed of in association with the drilling, testing, or completion of the well. Furthermore, no extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, will be used, produced, stored, transported, or disposed of in association with the drilling, testing, or completion of the well.

Wastewater will not be discharged on the surface at this site and the drilling of the well will not require a wastewater management plan.

All rubbish and debris will be kept in containers on the well site, and will be hauled to an approved disposal site upon completion of drilling operations and as needed during such operations. There will be no chemical disposal of any type.

Self-contained, portable toilets will be used for human waste, and the waste will be disposed at an approved human waste disposal facility. Sanitation will comply with local and state regulations.

Ancillary Facilities:

No ancillary facilities are anticipated at this time.

Well Site Layout:

Pad Location and Layout Drawings in the APD drawing packet show the proposed well site layout including location of the reserve pit and access road onto the pad, turnaround areas, parking areas, living facilities, soil material stockpiles, and the orientation of the rig with respect to the pad and other facilities. Cross section sheets in said packet show cuts and fills required for construction, and their relationship to topography. As detailed above under Methods for Handling Waste Disposal, the reserve pit will be lined and appropriate measures as described above will be taken to prevent leakage. The pit will be fenced on three sides during drilling operations and then the fourth side will be immediately fenced when the rig is moved off location.

The pad and road designs will be consistent with SITLA, UDOGM and BLM requirements.

A pre-construction meeting with responsible company representative and contractors will be conducted at the project site prior to commencement of surface-disturbing activities. The pad and road will be construction-staked (centerline and exterior boundaries) prior to this meeting.

All surface disturbing activities will be supervised by a qualified, responsible company representative who is aware of the terms and conditions of approval from the BLM under the Title V Right-of-Way, and APD, and terms and

conditions of approval from SITLA under the Easement and Special Use Lease.

All cut and fill slopes will be such that stability can be maintained for the life of the activity.

The stockpiled topsoil (first 6 inches or maximum available) will be isolated in a berm by the well pad. Topsoil will be stockpiled for reclamation in such a way as to prevent soil loss and contamination.

Water spraying may be implemented if necessary to minimize dust.

Plans for Reclamation of the Surface:

Interim Reclamation: In the event production is achieved the Operator will perform interim reclamation of the site. Interim reclamation will consist of reclamation of the reserve pit and reclamation of that portion of the well pad not needed for ongoing operations. After evaporation of fluids, the pit will be back-filled with sub-soil and/or rock and compacted to prevent settling. The pit area will be surfaced with granular borrow to render it a usable part of the well pad. All portions of the pad no longer necessary for well workover, testing or treating will be contoured to match the surrounding terrain to the best extent practicable. Stockpiled topsoil will be evenly distributed thereon, scarified and seeded as per Conditions of Approval.

Final Reclamation: In the event the well is a dry hole, or at such time that all production ceases and the well has been plugged and abandoned, the Operator will perform final reclamation of the site. Final reclamation will consist of reclamation of the reserve pit, the well pad and the access road as it crosses SITLA and BLM land. In the event the right-of-way across BLM land is assignable to SITLA, and such assignment is approved, reclamation of the BLM right-of-way may be partial, according to terms and conditions of said right-of-way. The Operator will comply with all Conditions of Approval for reclamation of the right-of-way.

Any accumulation of hydrocarbons in the reserve pit will be removed and recovered for sale unless it is determined by the authorized officer to be waste oil. All waste oil will be disposed of properly at approved facilities. The portion of the reserve pit liner that is exposed above the cuttings will be cut and removed from the site and disposed in an authorized landfill. After evaporation of fluids, the pit will be back-filled with subsoil and/or rock from the reserve pit stockpile and compacted to prevent settling.

Unless otherwise directed, road base material used in the construction of the access road and pad will be removed from the site and disposed in a proper manner. If the reserve pit has adequate capacity, then some or all of the road base material may be buried in the reserve pit, provided that the granular is not contaminated by oil or other waste materials. The access road will be contoured using an excavator or similar equipment, rather than simply ripping the surface.

Subsoil from the portions of the well pad that are fill will be pulled up onto the pad in order to reestablish the original slope to the best extent possible. The portions that are cut will be filled to match the original slope of the land to the best extent possible. Topsoil from the stockpile will then be evenly distributed over the entire impacted area. The entire impacted area will be scarified and seeded in late fall, using the seed mix and methods described in BLM and SITLA conditions of approval. Final reclamation will take place within 180 days after plugging date of the last well on site, depending on weather, season and other extenuating circumstances.

During the life of the project and until the site is released from liability for reclamation, the project will be inspected at least annually for noxious weeds. If invasive noxious weeds are found, the weeds will be treated to eliminate further reproduction, and treatment shall continue until the weeds have been eradicated. If noxious weeds are found, BLM and SITLA will be notified of their occurrence.

See Additional Detail on Plans for Reclamation of the Surface on Addendum to Surface Use Plan of Operations, attached hereto.

Surface Ownership:

The surface of the proposed well site and the Section 32 portion (.14 mile) of the access road is State owned and is administered by the State of Utah School and Institutional Trust Lands Administration (SITLA). The access road across Section 31-T17S-R1E, Section 6-T18S-R1E and Section 1-T18S-R1W is federally owned and is administered by the Bureau of Land Management, United States Department of Interior.

Other Information:

The topsoil (6 inches, or maximum amount present) will be stripped and removed from the well pad and stockpiled for future reclamation of the site. This topsoil shall be stockpiled separately from any other excavated materials. It will be reserved for reclamation and not utilized for any other purpose. If it is to be stockpiled for more than one year it will be seeded in the fall with a seed mix approved by the authorized officer.

Heavy equipment used to construct and rehabilitate the well pad and access road will be cleaned and/or sprayed to remove any noxious or invasive weeds and seeds, prior to entering to the project site. Any other equipment and vehicles that have been used in other locations where noxious weeds or seeds could have attached to the equipment will also be sprayed and/or cleaned.

Due to the narrow canyon, adequate truck turnouts are not possible on the new-built portion of the road. While smaller vehicles would be able to pass on the traveled surface, larger trucks would not. Flagmen with radio communication will be stationed at the upper and lower ends of Rough Canyon at all times when rig traffic is present, to prevent opposing traffic from meeting in this confined area.

In the event of a flash flood, traffic on the new road in Rough Canyon would be shut down until the flow of water ceased and the road surface could be returned to a passable condition.

All equipment and vehicles will be confined to the access road and well pad.

Western Land Services will conduct a Class III archeological survey and will submit same under separate cover to the appropriate agencies.

Western Land Services will conduct a T&E survey and prepare an EA for the proposed well site. The T&E report and EA will be submitted under separate cover to the appropriate agencies.

No stream alteration or drainage crossings are involved that require additional State or Federal approval.

All permanent structures, including pumping units, constructed or installed will be painted a flat, non-reflective color as described on page 40 of the Gold Book (Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development, 4th Edition 2006). Permanent structures are defined as being on location for six months or longer. Facilities required to comply with Occupational Safety and Health Act (OSHA) shall be excluded.

Fire suppression equipment will be available to suppress any wildfires caused by construction or related activities. In the event of a wildfire the Sanpete County Fire Warden will be notified, (435) 835-2117.

Operator Certification

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I, or someone under my direct supervision, have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Executed this 14th day of April, 2010.

Signature:



Position Title:

Paul Spiering
District Land Manager

Address:

Wolverine Operating Company of Utah, LLC
1140 N. Centennial Park Drive
Richfield, Utah 84701

Telephone:

435-896-1943

Field representative (if not above signatory)

Address:

Charlie Irons, Senior Landman
1140 N Centennial Park Drive
Richfield, Utah 84701

Telephone:

435-896-1943

Agents not directly employed by the operator must submit a letter from the operator authorizing that agent to act or file this application on their behalf.

H2S Drilling Operations Plan

Wolverine Operating Company of Utah, LLC

Rough Canyon Federal 30-1

Section 30
Township 17S - Range 01E
Sanpete County, Utah

GL Elevation: 6169 feet (est. graded)

One Riverfront Plaza
55 Campau, NW
Grand Rapids, Michigan 49503-2616

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Introduction and directions

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- B. Operating Conditions
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- D. Emergency Rescue Procedures
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X. Attachments-Maps, Diagrams

Introduction

This H2S contingency plan has been prepared for the Rough Canyon Federal 30-1 well, which will be located on a state surface lease in Section 32, T17S-R01E, Sanpete County. This Plan is intended as a guide for personnel working at the well site should an accidental release of natural gas containing hydrogen sulfide occur during drilling or completion operations. Operational requirements included installation of gas monitors and safety equipment on the drill site, personnel training, and response procedures. All personnel, including anyone who may travel to location on an unscheduled basis, must review and be familiar with onsite duties as well as the safety equipment involved. For the plan to be effective, the cooperation and participation of all personnel working at the well site is required.

The location is a remote location, located approximately 2.93 miles off of Highway 28 up into Rough Canyon. Therefore exposure to H2S by the general public is very unlikely during drilling or completion operations. The prevailing wind direction is expected to be from the west is drilled.

Directions

Driving directions: From Gunnison, Utah, travel north on SR 28 approximately 8.5 miles to a driveway on the East side connecting the highway to a two-track road. Proceed through the gate Easterly, thence Northerly a distance of about 1.42 miles on said two-track to its terminus near the mouth of Rough Canyon. Continue Northeasterly up the narrow canyon on a to-be-constructed new road a distance of about 1.38 miles to the Section 31 east line and SITLA boundary. Continue into Section 32 on SITLA land a distance of 700+ feet to the Rough Canyon Federal 30-1 well pad.

I. Duties & Responsibilities

In order to assure proper execution of the contingency plan, it is essential that one person be responsible for and requisite authority for implementing the procedures outlined in this plan. The order of responsibility will be as follows:

1. Wolverine supervisor on location - if unable to perform his/ her duties;
2. Alternate Wolverine representative - if unable to perform his/ her duties;
3. Rig Supervisor/Toolpusher - if unable to perform his/her duties;
4. Safety consultant representative - if available.

A. All Personnel

1. Always be alert for possible H2S alarms - both audible and visual.
2. Be familiar with location of Safe Briefing Areas (SBA) and protective breathing equipment.
3. Develop "wind awareness". Be aware of prevailing wind direction as well as nearby uphill areas should there be no wind.
4. Familiarize yourself with nearest escape routes for safe evacuation.
5. Should H2S alarm sound, DON'T PANIC - remain calm and follow instructions of person in charge.
6. If the H2S alarms sound:
 - a. Essential personnel shall don the appropriate respiratory protective equipment and follow safety procedures. They will continue to wear respiratory protective equipment until the area is deemed safe (H2S concentration less than 10 PPM).
 - b. Non-essential personnel shall evacuate to the appropriate safe briefing area using escape-breathing systems. They are to wait there for further instructions from the Wolverine foreman or the designated person in charge.
 - c. Initiate rescue protocol if necessary and following training procedures.

B. Wellsite Supervisor

1. The Wellsite Supervisor will confirm that all personnel on location at any time are trained in H2S safety and aware of above list of duties.
2. The Wellsite Supervisor will ensure that all personnel observe all safety and emergency procedures.
3. The Wellsite Supervisor will make an effort to keep the number of personnel on location to a minimum and to ensure that only essential personnel are on location during critical operations.
4. Should an extreme danger condition exist, the Wellsite Supervisor will:
 - a. Assess the situation and advise all personnel by appropriate means of communication.
 - b. Be responsible for determining that the extreme danger condition is warranted and have the red flag posted at location entrance.
 - c. Go to safe briefing area. Give clear instructions relative to hazard on location and actions for personnel to follow.
 - d. Notify company and regulatory groups of current situation as required per company policy and regulatory protocol. Follow appropriate procedures for emergency services notification.
 - e. Proceed to well and supervise operations with rig supervisor. Take action to control and reduce the H2S hazard.
 - f. Ensure that essential personnel are properly protected with supplied air breathing equipment and that non-essential personnel are in a "poison gas free" area.
 - g. Authorize evacuation of any persons/residents in area surrounding the well location.
 - h. Commence any ignition procedures if ignition criteria are met.

C. Rig Supervisor/Toolpusher

1. If the Wellsite Supervisor is unable to perform his/her duties and an alternate Wolverine representative is also unable or unavailable to perform his/her duties, the rig supervisor will assume command of wellsite operations and all responsibilities listed above for Wellsite Supervisor.
2. The Rig Supervisor will ensure that all rig personnel are properly trained to work in H2S environment, fully understand the purpose of H2S alarms, and know actions to take when alarms activate. He/She will ensure that all crew personnel understand

the buddy system, safe briefing areas, and individual duties as well as emergency evacuation procedures.

3. Should any extreme danger operational condition arise, the Rig Supervisor shall assist the Wellsite Supervisor by:
 - a. Proceeding to the rig floor and assist in supervising rig operations.
 - b. Ensuring that only essential working personnel remain in hazardous areas.
 - c. Ensuring that all crewmembers that remain in hazardous area, wear respiratory protective equipment until notified that area is "clear" of any toxic gases.
 - d. Assigning rig crewmember or other service representative to block entrance to location. No unauthorized personnel are to be allowed entry to location.
 - e. Helping to determine hazardous "danger zones" on location using portable detection equipment, and positioning electric fans to move gas in any high concentration areas.

D. Safety Consultant

1. During normal operations (no H₂S present), the safety consultant will be responsible for the following:
 - a. Ensuring that all wellsite safety equipment is in place and operational.
 - b. Ensuring that all wellsite personnel are familiar with location safety layout and operation of all safety equipment.
 - c. Assisting the Wellsite Supervisor in performing weekly H₂S drills for location personnel.
2. When an operational condition is classified as extreme danger, the safety consultant will be responsible for the following:
 - a. Accounting for all wellsite personnel.
 - b. Assessing any injuries and directing first aid measures.
 - c. Ensuring that all safety and monitoring equipment are functioning properly and available.
 - d. Monitoring the safety of wellsite personnel.
 - e. Maintaining close communication with the Wellsite Supervisor.
 - f. Being prepared to assist Wellsite Supervisor with support for rig crew or other personnel using breathing equipment.
 - g. Being prepared to assist the Wellsite Supervisor with emergency procedures including possible well ignition.
 - h. Being prepared to assist with evacuation of any area residents or other personnel in the immediate area.

E. Drilling Manager

1. The Wolverine Drilling Manager will be responsible for notifying and maintaining contact with the company Production Manager and/or other company supervisory personnel as required.
2. Maintaining communication with the Wellsite Supervisor and providing any other assistance that might be required.
3. Travelling to wellsite if appropriate
4. Assisting Wellsite Supervisor with all other notifications – including both company and regulatory.

II. Well Location Layout

A. Location

1. An attached well site diagram depict location and rig orientation, prevailing wind direction, terrain of surrounding area, location of briefing areas, access roads, location of flare lines and pits, location of caution/danger signs, and location of wind indicators.
2. If practical, the drilling rig will be situated to allow for the prevailing winds to blow across the rig toward the circulation tanks or at right angles to the lines from the BOP stack to the circulation tanks or as near this configuration as possible.
3. If practical, there will be 2 roads from location with one at each end of location or as dictated by prevailing winds and terrain. If an alternate road is not practical, a clearly marked footpath to a safe area will be provided. The auxiliary escape route will be kept available and passable at all times so that a shift in wind direction will not prevent escape from the location if an emergency should occur. An auxiliary footpath will be provided near the western corner of the location to provide an emergency egress off the pad for foot traffic.
4. The entrance(s) to the location will be designed to be barricaded if necessary because of a hydrogen sulfide emergency condition.
5. A minimum of 2 safe briefing areas (SBA) will be designated for assembly of personnel during emergency conditions. These will be located at least 200 feet from the wellbore and in such a location that at least one area will be upwind of the well at all times. Upon recognition of an emergency situation, all personnel will be trained to assemble at the designated briefing area for instructions.
6. Smoking areas will be established and smoking will be allowed only at those established smoking areas.

7. Reliable 24-hour telephone communications will be available at the wellsite supervisor's office.
8. The drilling rig will have a continuous electronic H₂S detection system that will be located to detect the presence of hydrogen sulfide in areas where it is most likely to appear on site. The sensor head locations will be: 1) rig floor by driller's console, 2) substructure area near the bell nipple, 3) the shale shaker, 4) the mud mixing area. Additional sensors will be positioned at the discretion of the drilling foreman. At least 1 light and 1 siren will be placed on the rig to indicate the presence of hydrogen sulfide. The light and siren will be strategically placed to be visible to all personnel on the drill site.
9. Equipment to indicate wind direction will be installed at prominent locations and will be visible at all times during drilling operations. At least 2 wind direction indicators (i.e. windsocks) will be placed at separate elevations (i.e. near ground level and rig floor height). At least 1 wind direction indicator will be clearly visible from all principal working areas at all times so that wind direction can be easily determined. In addition, a wind direction indicator will be provided at each of the two briefing areas if the other wind direction indicators on location are not visible from the briefing areas.
10. Operational danger or caution sign(s) will be displayed along all controlled accesses to the site. The sign(s) will legible and large enough to be read by all persons entering the wellsite and be placed a minimum of 200 feet but not more than 500 feet from the wellsite and at a location which allows vehicles to turn around at a safe distance prior to reaching the site.
11. Protective safety equipment will be available for all essential personnel. There will be five 30-minute SCBA and five air line breathing units with emergency escape cylinders located at the drilling floor or dog house, one SCBA and air line unit will be located in the derrick (for derrick man), one 30-minute SCBA per person will be located by the quarters of all personnel on location, and 30-minute SCBA and escape units will be distributed as needed near the shaker, mud tanks, and any other area where escape from an H₂S contaminated area could be difficult. A safety trailer containing the compressed breathing air will be located near the well site and air lines will be run from the safety trailer to where the air line breathing units are located.

III. Safety Procedures

A. Training

When this plan is in effect, all personnel who come onto the location must be properly trained in hydrogen sulfide, nitrogen, and oxygen deficient atmospheres safety. The personnel shall carry documentation with them indicating that the training has occurred within the previous 12 months. All training will comply with federal and state regulatory guidelines. There will be a training session that reviews this site specific H₂S plan and the H₂S PPP (if applicable) for all personnel in each work crew on location. Training will also include weekly H₂S and well control drills.

All training sessions and drills are to be recorded in the driller's log, as well as in the safety trailer logbook.

Training topics shall include at a minimum:

1. Hazards and characteristics of hydrogen sulfide, nitrogen, and oxygen deficient atmospheres and symptoms of exposure to these gases.
2. Proper use, care and limitations of respiratory protective equipment with hands-on practice.
3. Use of both fixed and portable toxic gas detection equipment.
4. Work practices to reduce chances for toxic gas exposure and procedures for confined space.
5. First aid for toxic gas exposure and resuscitation equipment.
6. The buddy system.
7. Emergency evacuation procedures.
8. A review of the contingency plan for the well.

B. Operating Conditions

A three color- flag warning system will be used to notify personnel approaching the drill site as to operating conditions on the wellsite. This system is in compliance with BLM Onshore Order 6 and follows industry standards.

Green Flag - Potential Danger

Yellow Flag - Moderate Danger

Red Flag- Extreme Danger - Do not approach if red flag is flying.

A red warning flag will be displayed when H₂S is detected in excess of 10 ppm at any detection point.

The operational danger or caution signs located near the entrance to the location will be painted a high visibility red, black and white, or yellow with black lettering. They will be legible and large enough to be read by all persons entering the wellsite and will read "DANGER – POISON GAS – HYDROGEN SULFIDE" and in small lettering "Do not approach if Red Flag is Flying".

All sign(s) and, when appropriate, flag(s) will be visible to all personnel approaching the location under normal lighting and weather conditions.

Location access will be monitored and controlled during "non-routine" operations such as perforating, pressurized pumping, and well testing of potential H₂S bearing formations. The number of personnel on location will be restricted to "essential" personnel only

C. Warning System Response and Evacuation Plan

When H₂S is detected in excess of 10 ppm at any detection point indicating that an extreme danger condition exists, all non-essential personnel will be moved to a safe area and essential personnel (i.e., those necessary to maintain control of the well) shall don a pressure-demand type protective breathing apparatus. Once accomplished, operations may proceed.

If an H₂S emergency situation arises, the Wellsite Supervisor will contact local authorities to authorize and work in coordination with them to evacuate and restrict non-essential personnel from areas near the wellsite where H₂S concentration levels could potentially exceed 10 ppm. All associated regulatory agencies will then be notified as soon as possible.

D. Emergency Rescue Procedures

Well site personnel should not attempt emergency rescues unless they have been properly trained. A trained person who discovers another person overcome by hydrogen sulfide **should not attempt to rescue without donning the proper breathing equipment**. When making an emergency rescue always use the following procedures:

1. Don rescue breathing equipment before attempting to rescue someone.
2. Remove the victim from the contaminated area to an area free of gas by traveling upwind or cross wind. Be certain that you are in a safe area before removing your breathing equipment.
3. If the victim is not breathing, initiate mouth-to-mouth resuscitation immediately. Follow CPR guidelines and replace mouth-to-mouth with a bag mask resuscitator if available.
4. Treat the victim for shock, keeping the victim warm and calm. Never leave the victim alone.
5. Any personnel who experience hydrogen sulfide exposure must be taken to a hospital for examination and their supervisor notified of the incident.
6. Their supervisor shall follow the company Emergency Preparedness plan.

E. Planning with Local Officials

Wolverine representatives will meet with local officials and apprise them of key elements of the H₂S Drilling Operations Plan.

IV. H2S Safety Equipment on Well Location Procedures

<u>Item</u>	<u>Amount</u>	<u>Description</u>
1.	1	Safety trailer with a cascade system of 10-300 cu. ft bottles of compressed breathing air complete with high-pressure regulators.
2.	At least 1000 ft.	Low-pressure airline equipped with Hanson locking fittings. This airline will be rigged up with manifolds to supply breathing air to the rig floor, substructure, derrick, shale shaker area, and mud mixing areas. Three high-pressure refill hoses will be attached to cascade systems for cylinder refill.
3.	Twelve (12)	Scott 30-minute self-contained breathing apparatuses (SCBA).
4.	Twelve (12)	Scott airline units with emergency escape cylinders.
5.	One (1)	4-channel continuous electronic H2S monitors with audible and visual alarms. The set points for these alarms are 10 ppm for the low alarm and 15 ppm for the high alarm.
6.	Two (2)	Sensidyne portable hand operated pump type detection units with tubes for hydrogen sulfide and sulfur dioxide.
7.	One (1)	Oxygen resuscitator with spare oxygen cylinder.
8.	One (1)	Trauma first aid kit.
9.	One (1)	Stokes stretcher and one (1) KED
10.	Four (4)	Windsocks.
11.	At least one (1)	Well condition sign with 3 flag system.
12.	Two (2)	Safe Briefing Area (SBA) signs.
13.	One (1)	Fire blanket.
14.	One (1)	Set air splints.
15.	Two (2)	Electric explosion proof fans.
16.	One (1)	Bullhorn and chalk board.
17.	Three (3)	300 cu. ft. air bottles for the safe briefing area.
18.	Two (2)	30# fire extinguishers.
19.	Six (6)	Battery powered voice microphones for communication when wearing air masks.
20.	One (1)	Battery powered combustible gas meter.

V. Operating Procedures and Equipment

1. If zones containing in excess of 100 ppm of H₂S gas are encountered while drilling with air, gas, mist, other non-mud circulating mediums for aerated mud, the well will be killed with a water-based mud and mud will be used thereafter as the circulating medium for continued drilling.
2. A flare system will be designed and installed to safely gather and burn H₂S-bearing gas and it will be equipped with a suitable and safe means of ignition. If noncombustible gas is to be flared, the system will have a supplemental fuel to maintain ignition.
3. Flare lines will be located as far from the operating site as feasible and in a manner to compensate for wind changes. The flare line(s) mouth(s) will be located not less than 150 feet from the wellbore. Flare lines will be straight unless targeted with running tees.
4. If SO₂ is to be released as a result of flaring of H₂S, portable SO₂ detection equipment will be available for checking the SO₂ level in the flare impact area. If the flare impact area reaches a sustained ambient threshold level of 2 ppm or greater of SO₂ in air and includes any occupied residence, school, church, park, or place of business, or other area where the public could reasonably be expected to frequent, the PPP will be implemented.
5. The choke manifold included as a component of the well control system will have at least one remote controlled choke with controls readily accessible to the drilling or other authorized personnel.
6. A rotating head will be installed and operable.
7. A mud-gas separator will be rigged up and manifolded to the choke and flare system.
8. The drilling mud will be a water-based system maintained with a pH of 10 or greater. Corrosion inhibitor additives will be in the mud. Sufficient scavenger chemicals will be available on location and will be used to scavenge or neutralize any H₂S in the drilling fluid. Mud weight will be maintained as needed to control pressure in any formations encountered.
9. All equipment that has potential for exposure to H₂S will be suitable for H₂S service. The casing head and spools, blowout preventer assembly, rotating head, kill lines, choke, choke manifold and lines, valves, mud-gas separator and other related equipment will have metallurgical standards conforming to NACE MR0175/ISO 15156. Elastomers, packing, and similar inner parts exposed to H₂S will be resistant at the maximum anticipated temperature of exposure. Drill strings, surface casing, intermediate casing, and BOP shear rams are exempt from these requirements.
10. All respiratory protective, H₂S detection, and other needed safety equipment will be in place and ready for use, and all rig crews and other service personnel will be trained in its use when this plan is effective.

11. There will be a continuous electronic H₂S detection system that will automatically activate visible and audible alarms if hydrogen sulfide is detected. The visible light will activate if 10 ppm H₂S is present. The audible siren will activate if 15 ppm H₂S or higher concentration is present. There will be at least four H₂S sensors in place on the drilling rig. Additional alarm lights & sirens may be added to ensure that all personnel on the drill site are able to notice the alarms at any time. All H₂S detection equipment will be calibrated as recommended by the manufacturer and calibration records will be maintained on location.
12. Both 30-minute self-contained breathing apparatuses (SCBA) and workline units with escape cylinders will be available on location. There will be sufficient numbers of this supplied air breathing equipment on location to ensure that all personnel on location have equipment available to them. All respiratory protective equipment will use nose cups to prevent fogging in temperatures below 32°F. Spectacle kits will be available for personnel that require corrective lenses when working under mask.
13. Electronic voice-microphones will be available for essential personnel to use when working under mask to facilitate communication.
14. Additional breathing equipment will be provided for non routine operations that require additional service personnel on the well location to ensure that all personnel on the well location have a dedicated supplied air respirator.
15. Electric explosion-proof ventilating fans (bug blowers) will be available to provide air movement in enclosed areas where gas might accumulate.
16. Any drill stem test performed on any formation potentially containing H₂S will be done with a minimal number of personnel at the drilling site as necessary to safely operate the test equipment. Any such drill-stem test will be conducted only during daylight hours and will be a closed chamber test with no fluids allowed to flow from surface.
17. Any production testing of an H₂S bearing formation will be done with proper wellhead and other equipment in place to allow a controlled test through separation equipment and flare as needed. Any such test would be conducted with monitoring and warning devices in place and proper safety equipment available.

VI. Well Ignition Procedures

If it should become apparent that an uncontrolled release of hydrogen sulfide to the atmosphere might endanger the health and safety of the public or well site personnel, the Wolverine Wellsite Supervisor will make a decision to ignite the well. The following procedure should be followed before attempting to ignite the well.

- A. Ignition equipment - The following equipment will be available for on-site for use by the ignition team.
 1. Two 12 gauge flare guns with flare shells
 2. Two 500 ft. Fire resistant retrieval ropes

3. One portable combustible gas meter
4. Self contained breathing apparatus (SCBA) for each member of the ignition team.
5. One backup vehicle with communication equipment

B. Ignition Procedures

1. The Wellsite Supervisor will ensure that well site personnel are evacuated to a safe area upwind of the well bore prior to any ignition action.
2. The Wellsite Supervisor and a designated partner "buddy" backed up by well site safety personnel will comprise the ignition team. All team members will be wearing 30 minute SCBAs.
3. The backup crew will be positioned near a radio-equipped vehicle at a safe distance from the sour gas release. They will standby to rescue the actual team igniting the well.
4. The partner of the ignition team will carry a combustible gas/ hydrogen sulfide meter to continuously monitor the area in which they are working and define the perimeter of the gas cloud.
5. The Wellsite Supervisor will carry the flare gun and shells.
6. The ignition team will determine the hazardous area and establish safe working perimeters. Once this is identified the team will proceed upwind of the leak and fire into the area with flare gun. If trouble is encountered in trying to light the leak, retry to ignite by firing the flare shells at 45 and 90 angles to the gas source, but DO NOT approach closer to the leak.
7. After ignition, monitor for sulfur dioxide and work with the support group to restrict access to the contaminated area.

VII. Residents – Public in Radius of Exposure

Exposure to H₂S by the general public is very unlikely during drilling or completion operations. The well site is located in a remote area, approximately 2.9 miles off the nearest major road. There are no permanent residents within a 1-mile radius of the well site and the 100 PPM and the 500 PPM radii of exposure for this well based on offset well parameters of 2.0 MMCFD flow rate and 0.1% H₂S content are less than 2000' and 1000', respectively. The surrounding area is federally owned or STITLA land. This land may be used for recreational purposes including hunting or recreational vehicles during the drilling or completion of this well. The well pad will have controlled access during drilling.

VIII. Emergency Phone Directory

A. Wolverine Gas and Oil Company of Utah, LLC

Chuck Emerson (Drilling Wellsite Supervisor – Wolverine) Rig Phone 970-812-0022
 Tom Zupan (Drilling Wellsite Supervisor – Wolverine)
 Bill Donovan (Drilling Wellsite Supervisor – Wolverine)

Jack Magill (Drilling Engineer Consultant) office 308-848-3279
 Cell 303-868-6408

Tony Cook (Production Forman – Wolverine) office 435-896-2956
 cell 435-201-1622
 truck 435-201-2871

Ed Higuera (Operations Manager – Wolverine) office 616-458-1150
 Cell 616-690-0023

B. Emergency Services Phone List

1. Sevier Valley Medical Center - Richfield, UT 435 - 896-8271
2. Gunnison Valley Hospital, Sanpete County 435 - 528-7246
3. Ambulance Services – Sevier County, UT 911 or 435-896-6471
4. Ambulance Services – Sanpete County, UT 911 or 435-835-2191
5. Sheriff Department - Sevier County, UT 911 or 435-896-6471
6. Sheriff Department – Sanpete County, UT 911 or 435-835-2191
7. Highway Patrol - Utah 800 - 222-0038
8. Fire Department - Sevier County..... 911 or 435-896-6471
9. Al McKee, BLM – Salt Lake City, UT (cell phone) 801- 828-7498
10. Utah Division Oil, Gas & Mining - Salt Lake City, UT 801- 538-5277
11. Medical Helicopter - Air Med- Salt Lake City, UT 800 - 453-0120
12. Utah OSHA (Mark LeBlanc) 801- 530-6862
13. Sevier Valley Medical Center - Richfield, UT 435-896-8271

C. Nearest Hospital

The nearest hospital to the site is the Gunnison Valley Hospital, located at 64 E 100 N, Gunnison, UT. A map and directions to the hospital can be found in Section X-Attachments.

IX. Reference Material for Hydrogen Sulfide and Sulfur Dioxide

If gas should be produced, it could be a mixture of Carbon Dioxide, Hydrogen Sulfide, and Methane.

TOXICITY OF VARIOUS GASES

<u>Common Name</u>	<u>Chemical Formula</u>	<u>Specific Gravity of Air=1</u>	<u>1 Threshold Limit</u>	<u>2 Hazardous Limit</u>	<u>3 Lethal Concern</u>
Hydrogen Cyanide	HCN	0.94	10 ppm	150 ppm/hr	300 ppm
Hydrogen Sulfide	H ₂ S	1.18	10 ppm	250 ppm/hr	600 ppm
Sulfur Dioxide	SO ₂	2.21	2 ppm	-----	1,000 ppm
Chloride	CL ₁	2.45	1 ppm	4 ppm/hr	1,000 ppm
Carbon Monoxide	CO	0.97	50 ppm	400 ppm/hr	1,000 ppm
Carbon Dioxide	CO ₂	1.52	5,000 ppm	5%	10%
Methane	CH ₄	0.55	90,000 ppm	Combustible Above 5% in Air	-----

1. **Threshold** = Concentration at which it is believed that all workers may repeatedly be exposed, day after day, without adverse side effects.

2. **Hazardous** = Concentration that may cause death.

3. **Lethal** = Concentration that will cause death with short-term exposure.

HYDROGEN SULFIDE

GENERAL PROPERTIES

Hydrogen Sulfide itself is a colorless and transparent gas and is flammable. It is heavier than air and, hence, may accumulate in low places.

Although the slightest presence of H₂S in the air is normally detectable by its characteristic “Rotten Egg” odor, it is dangerous to rely on the odor as a means of detecting excessive concentrations because the sense of smell is rapidly lost allowing lethal concentrations to be accumulated without warning. The following table indicates the poisonous nature of Hydrogen Sulfide, which is more toxic than Carbon Monoxide.

COMMON NAMES: Sour Gas, Rotten Egg Gas, Sulphurated Hydrogen, Hydrogen sulfide, Stink Damp, H₂S, Acid Gas, Sweet Gas*

PHYSICAL-CHEMICAL PROPERTIES

- Chemical Formula..... H₂S
1. Specific Gravity (Air = 1.000)..... 1.193 (@ 77°F)
 2. Color None
 3. Odor..... Compared to Rotten Eggs
 4. Odor Threshold 0.13 part of 1 ppm
 5. Corrosivity Reacts with metals, plastics, tissues and nerves.
 6. Solubility in Water 4.0 to 1 in H₂O @ 32°F
2.6 to 1 in H₂O @ 68°F
 7. Effects on Humans..... Olfactory nerves, respiratory nerves, irritates sensitive membranes in eyes, nose, and throat.
 8. Vapor Pressure 19.6 atmospheres at 25°C
 9. Explosive Limits 4.3% to 46% by volume in air.
* H₂S is a sweet tasting Gas, but often the word “tasting” is left out.
 10. Ignition Temperature.....18°F (Burns with a pale blue flame)
 11. Molecular Weight.....34.08
 12. Conversion Factors..... 1 mg/1 of air = 717 ppm (at 25°C and 760 mm HG). 1 ppm = 0.00139 mg/1 of air.
 13. pH.....3 in water

INDUSTRIAL OCCURRENCES

Hydrogen Sulfide exposures occur in certain processes in the petroleum industry, chemical plants, chemical laboratories, sulfur and gypsum mines, viscose rayon and rubber industries, tanneries, and in the manufacture of some chemicals, dyes, and pigments. It may be encountered in excavations in the swampy or filled ground. It is produced when sulfur-containing organic matter decomposes, and it can therefore be found in sewage or organic-waste treatment plants. A common sewer gas, it may find its way into utility manhole, particularly dangerous when encountered in tanks, vessels, and other enclosed spaces.

TOXIC PROPERTIES

Hydrogen Sulfide is an extremely toxic and irritating gas. Free Hydrogen Sulfide in the blood reduces its oxygen carrying capacity, thereby depressing the nervous system. Sufficiently high concentrations can cause blockage of the phrenic nerve, resulting in immediate collapse and death due to respiratory failure and asphyxiation.

Because Hydrogen Sulfide is oxidized quite rapidly to sulfates in the body, no permanent after effects occur in cases of recovery from acute exposures unless oxygen deprivation of the nervous system is prolonged. However, in cases of acute exposures, there is always the possibility that pulmonary edema may develop. It is also reported that symptoms such as nervousness, dry nonproductive coughing, nausea, headache, and insomnia, lasting up to about 3 days have occurred after acute exposures to Hydrogen Sulfide.

At low concentrations the predominant effect of Hydrogen Sulfide is on the eyes and respiratory tract. Eye irritation, conjunctivitis, pain, lacrimation, keratitis, and photophobia may persist for several days. Respiratory tract symptoms include coughing, painful breathing, and pain in the nose and throat.

There is no evidence that repeated exposures to Hydrogen Sulfide results in accumulative or systemic poisoning. Effects such as eye irritation, respiratory tract irritation, slow pulse rate, lassitude, digestive disturbances, and cold sweats may occur, but these symptoms disappear in a relatively short time after removal from the exposure. Repeated exposure to Hydrogen Sulfide does not appear to cause any increase or decrease in susceptibility to this gas.

The paralytic effect of Hydrogen Sulfide on the olfactory nerve is probably the most significant property of the gas. This paralysis may create a false sense of security. A worker can be overcome after the typical rotten-egg odor has disappeared. Rather than the characteristic Hydrogen Sulfide odor, some victims of sudden acute overexposure have reported a brief sickeningly sweet odor just prior to unconsciousness.

Subjective olfactory responses to various concentrations of Hydrogen Sulfide may be summarized as follows:

0.02 ppm	No odor
0.13 ppm	Minimal perceptible odor
0.77 ppm	Faint, but readily perceptible odor
4.60 ppm	Easily detectable, moderate odor
27.0 ppm	Strong, unpleasant odor, but not intolerable

Physiological responses to various concentrations of Hydrogen Sulfide have been reported as follows:

10 ppm	Beginning eye irritation
50-100 ppm	Slight conjunctivitis and respiratory tract irritation after 1 hour exposure
100 ppm	Coughing, eye irritation, loss of sense of smell after 2-15 minutes. Altered respiration, pain in the eyes, and drowsiness after 15-30 minutes, followed by throat irritation after 1 hour. Several hours ¹ exposure results in gradual increase in severity of these symptoms and death may occur within the next 48 hours
200-300 ppm	Marked conjunctivitis and respiratory tract irritation after 1 hour exposure
500-700 ppm	Loss of consciousness and possibly death in 30 minutes
700 ppm	Rapid unconsciousness, cessation of respiration, and death
1000-2000 ppm	Unconsciousness at once, with early cessation of respiration and death in a few minutes. Death may occur even if individual is removed to fresh air at once.

ACCEPTABLE CONCENTRATIONS

ACCEPTABLE EIGHT-HOUR TIME-WEIGHTED AVERAGE

To avoid discomfort, the Time-Weighted average concentration of Hydrogen Sulfide shall not exceed 10 ppm.

ACCEPTABLE CEILING CONCENTRATION

The acceptable concentration for protection of health for an eight-hour, five-day week shall be 20 ppm. Fluctuations are to occur below this concentration.

**ACCEPTABLE MAXIMUM FOR PEAKS ABOVE ACCEPTABLE
BASE LINE FOR CONTINUOUS EXPOSURE**

A single-peak concentration not exceeding 50 ppm for a maximum of 10 minutes is allowable provided that the daily time-weighted average is not exceeded.

H₂S EQUIVALENTS

Parts per Million	Percents	Grains per 100 cu. Ft.
1	0.0001	0.055
10	0.001	0.55
18	0.0018	1.0
100	0.01	5.5
1000	0.1	55.5
10000	1.0	555.5

Grains per 100 cu. Ft. = % by volume Mole 636.4

1% by volume = 10,000 ppm

SULFUR DIOXIDE

Sulfur Dioxide (SO₂) is a colorless, transparent gas and is non-flammable.

Sulfur Dioxide is produced during the burning of H₂S. Although SO₂ is heavier than air, it will be picked up by a breeze and carried downwind at elevated temperatures. While Sulfur Dioxide is extremely irritating to the eyes and mucous membranes of the upper respiratory tract, it has exceptionally good warning powers in this respect.

CONCENTRATIONS

%SO₂ ppm

0.0002 2

0.0005 5

0.0012 12

0.015 150

0.05 500

EFFECTS

Safe for eight (8) hour exposure

Pungent odor - normally a person can detect SO₂ in this range.

Throat irritation, coughing, constriction of the chest, tearing and smarting of the eyes.

So irritating that it can only be endured for a few minutes.

Causes a sense of suffocation, even with the first breath.

PHYSICAL PROPERTIES AND CHARACTERISTICS

Chemical Formula	SO ₂
1. Specific Gravity	2.212
2. Color	None
3. Flammable.....	No
4. Odor	Characteristic, pungent, gives ample warning of its presence.
5. Corrosivity	Dry---not corrosive to ordinary metals. Wet--corrosive to most common metals.
6. Allowable Concentrations.....	2 ppm (ACGIH and OSHA)
7. Effects on Humans.....	Irritates eyes, throat and upper respiratory system

TOXIC PROPERTIES

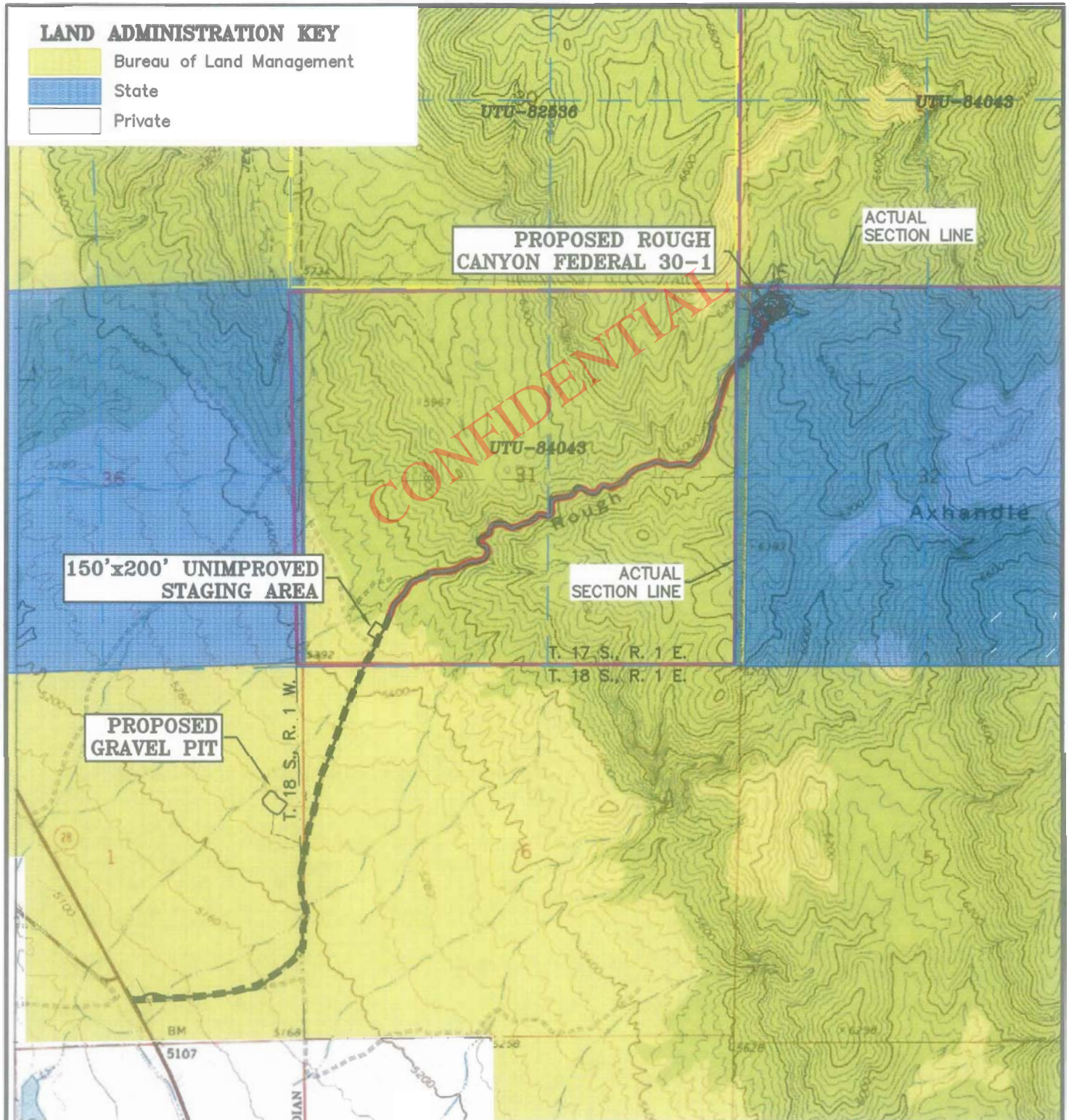
Sulfur Dioxide is an irritating gas in its vapor form and the odor is so intensely irritating that concentrations of 3 to 5 parts per million in the air are readily detectable by the normal person. In higher concentrations, the severely irritating effect of the gas makes it unlikely that any person would be able to remain in a Sulfur Dioxide contaminated atmosphere unless they were unconscious or trapped.

Sulfur Dioxide gas is intensely irritating to the eyes, throat, and upper respiratory system. Inhalation of this gas in concentrations of 8 to 12 parts per million in air causes throat irritation, coughing, constriction of the chest, tearing and smarting of the eyes. 150 parts per million is so extremely irritating that it can be endured only for a few minutes. 500 parts per million is so acutely irritating to the upper respiratory tract that it causes a sense of suffocation, even with the first breath.

Out of numerous reported exposures to Sulfur Dioxide, there are few references that would indicate pneumonia as an after effect.

X. Attachments-Maps, Diagrams

CONFIDENTIAL



LEGEND

- | | | | |
|---|--------------------------|-----|---|
| ○ | PROPOSED LOCATION | --- | EXISTING ROADWAY NEEDING IMPROVEMENT (1.42 mi.) |
| — | UTU-84043 LEASE BOUNDARY | --- | NEW ROADWAY ON BLM ONLY (1.38 mi.) |
| — | UTU-82536 LEASE BOUNDARY | | |

Rough Canyon Federal 30-1
Section 32, T.17 S., R.1 E., S.L.B. & M.
288' FNL 452' FWL



Jones & DeMille Engineering, Inc.
 1535 South 100 West
 Richfield, Utah 84701
 Voice 435.896.8266
 Fax 435.896.8268
 248 East Main
 Price, Utah 84501
 Voice 435.637.8266
 Fax 435.637.8268
www.jonesanddemille.com



SCALE: 1"=2000'

Vicinity Map

FIGURE: 1

Wolverine Operating Co., of Utah, LLC

Rough Canyon Federal 30-1

DRAWN: L.G. 01-2010	PEN TEL: 1stnd.d-hp2500.ctb	PROJECT: 0911-062	SHEET: 1
CHECK: D.R. 01-2010	FILE: VICINIFY	LAST UPDATE: 3/30/2010	

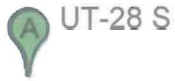


Directions to 64 E 100 N St, Gunnison, UT 84634

8.1 mi – about 13 mins

these directions start interesection of SR 28 and the two-track that leads to the well site pad, which is approximately 2.93 miles off SR 28





1. Head **southeast** on **UT-28 S** toward **E 300 N St**
About 11 mins

go 7.7 mi
total 7.7 mi



2. Continue onto **N Main St**
About 1 min

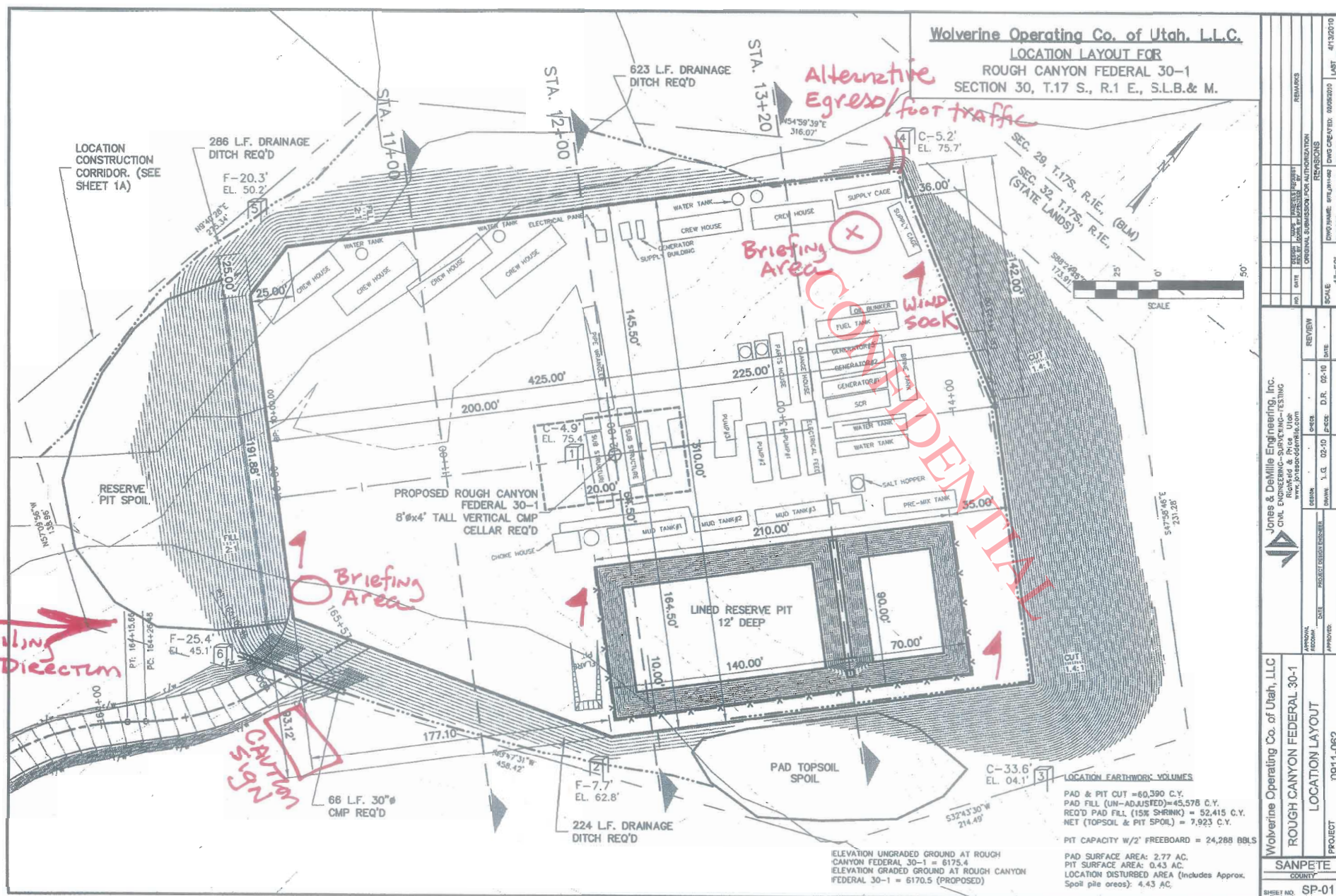
go 0.2 mi
total 8.0 mi



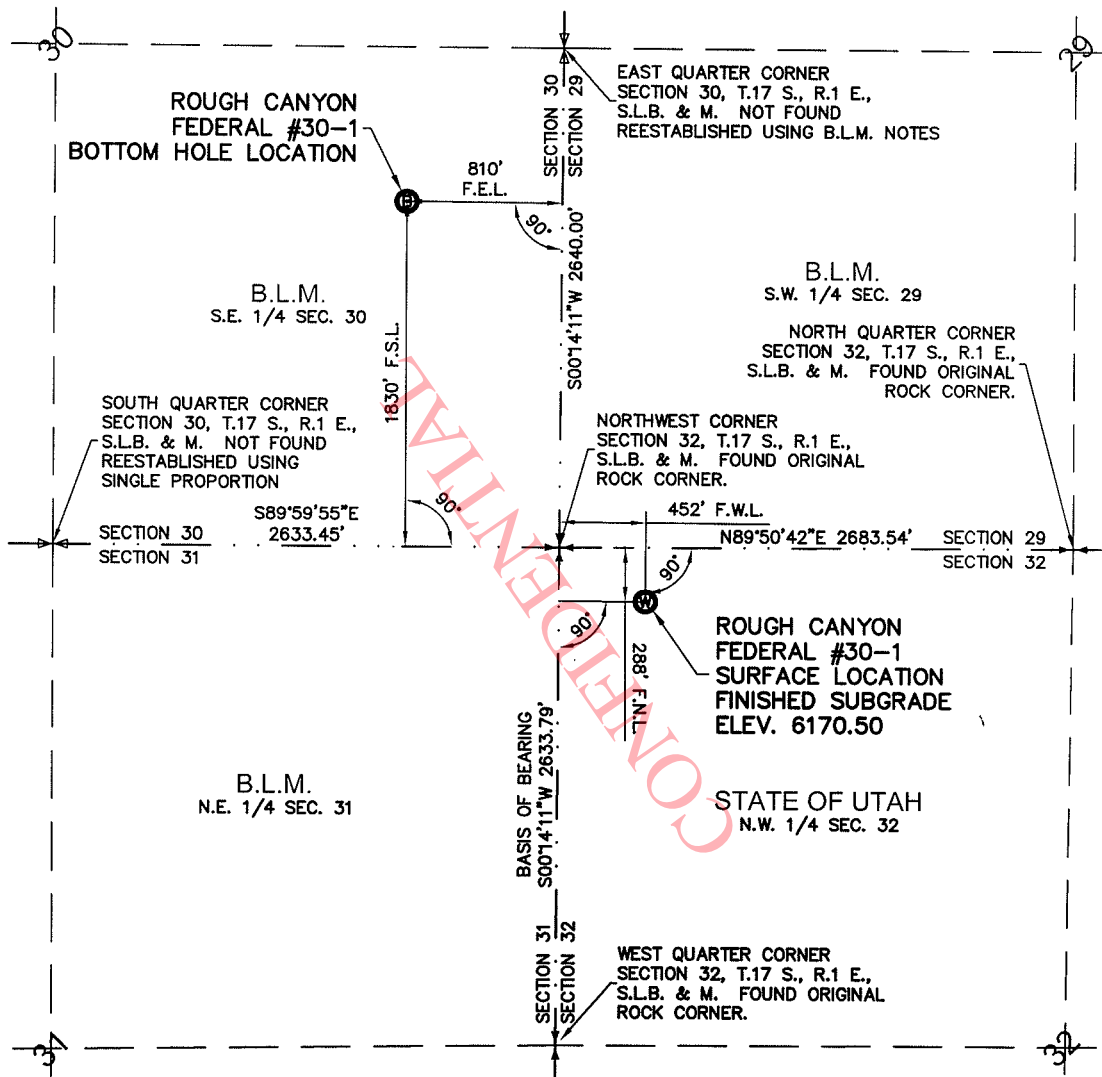
3. Turn **left** at **E 100 N St**
Destination will be on the right
About 1 min

go 0.1 mi
total 8.1 mi





Part of Sections 29, 30, 31, & 32, T.17 S., R.1 E., S.L.B. & M.



BASIS OF BEARINGS

BASIS OF BEARING USED WAS S00°14'11\"/>

PROJECT Wolverine Operating Company of Utah, LLC.

WELL LOCATION, LOCATED AS SHOWN IN THE N.W. 1/4 OF THE
N.W. 1/4 OF SECTION 32, T.17 S., R.1 E., S.L.B. & M.
SANPETE COUNTY, UTAH

LEGEND

- ✚ = SECTION CORNERS LOCATED
- ✚ = QUARTER SECTION CORNERS LOCATED
- ✚ = REESTABLISHED SECTION CORNERS
- ✚ = REESTABLISHED QUARTER SECTION CORNERS
- ⊙ = PROPOSED WELL HEAD
- ⊙ = PROPOSED BOTTOM HOLE LOCATION

NOTE: THE PURPOSE OF THIS SURVEY WAS TO PLAT
THE ROUGH CANYON FEDERAL #30-1
LOCATION. LOCATED IN THE N.W. 1/4 OF
THE N.W. 1/4 OF SECTION 32, T.17 S., R.1 E.,
S.L.B. & M., SANPETE COUNTY, UTAH.

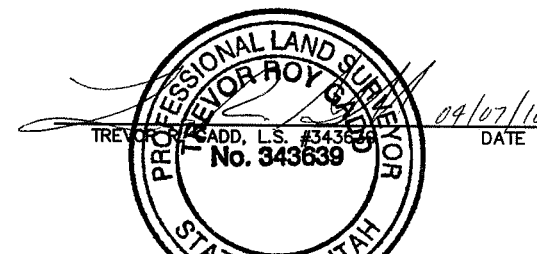
BASIS OF ELEVATION

ELEVATION BASED ON N.A.V.D. 88



CERTIFICATE

THIS IS TO CERTIFY THAT THIS PLAT WAS PREPARED FROM
FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER
MY SUPERVISION, AND THAT THE SAME ARE TRUE AND
CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.



Jones & Demille Engineering
1535 South 100 West - Richfield, Utah 84701
Phone (435) 896-8266
Fax (435) 896-8268
www.jonesanddemille.com

Well Location Plat for

Wolverine Operating Company of Utah, LLC.

DESIGNED —	SURVEYED B.S.B.	CHECKED T.R.G.	DRAWN T.R.G.	PROJECT NO. 0911-082	SHEET NO.
DATE 04/08/2010		DWG.NAME 0811-082	SCALE 1"=1000'		

Wolverine Gas & Oil Company

**Rough Canyon
Sanpete County, Utah
Rough Canyon Federal 30-1**

Wellbore #1

Plan: Design #1

Standard Planning Report

08 April, 2010

Gyrodata

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Sanpete County, Utah
Company:	Wolverine Gas & Oil Company	TVD Reference:	WELL @ 0.0ft (Original Well Elev)
Project:	Rough Canyon	MD Reference:	WELL @ 0.0ft (Original Well Elev)
Site:	Sanpete County, Utah	North Reference:	Grid
Well:	Rough Canyon Federal 30-1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project	Rough Canyon		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Utah Central 4302		

Site	Sanpete County, Utah		
Site Position:		Northing:	350,273.10 ft
From:	Lat/Long	Easting:	1,904,368.00 ft
Position Uncertainty:	0.0 ft	Slot Radius:	0 "
		Latitude:	39° 17' 40.276 N
		Longitude:	111° 50' 16.454 W
		Grid Convergence:	-0.22 °

Well	Rough Canyon Federal 30-1		
Well Position	+N/-S	0.0 ft	Northing: 350,273.10 ft
	+E/-W	0.0 ft	Easting: 1,904,368.00 ft
Position Uncertainty		0.0 ft	Wellhead Elevation:
			Latitude: 39° 17' 40.276 N
			Longitude: 111° 50' 16.454 W
			Ground Level: 0.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	User Defined	2010/04/08	0.00	0.00	0

Design	Design #1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	329.21

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,506.7	16.60	329.21	2,491.3	136.8	-81.5	1.50	1.50	0.00	329.21	
10,022.1	16.60	329.21	9,693.5	1,981.2	-1,180.5	0.00	0.00	0.00	0.00	
11,128.8	0.00	0.00	10,784.7	2,118.0	-1,262.0	1.50	-1.50	0.00	180.00	
12,844.1	0.00	0.00	12,500.0	2,118.0	-1,262.0	0.00	0.00	0.00	0.00	PBHL

Gyrodata Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Sanpete County, Utah
Company:	Wolverine Gas & Oil Company	TVD Reference:	WELL @ 0.0ft (Original Well Elev)
Project:	Rough Canyon	MD Reference:	WELL @ 0.0ft (Original Well Elev)
Site:	Sanpete County, Utah	North Reference:	Grid
Well:	Rough Canyon Federal 30-1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
20" Casing									
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP Begin Build 1.50°/100' MD									
1,500.0	1.50	329.21	1,500.0	1.1	-0.7	1.3	1.50	1.50	0.00
1,600.0	3.00	329.21	1,599.9	4.5	-2.7	5.2	1.50	1.50	0.00
1,700.0	4.50	329.21	1,699.7	10.1	-6.0	11.8	1.50	1.50	0.00
1,800.0	6.00	329.21	1,799.3	18.0	-10.7	20.9	1.50	1.50	0.00
1,900.0	7.50	329.21	1,898.6	28.1	-16.7	32.7	1.50	1.50	0.00
2,000.0	9.00	329.21	1,997.5	40.4	-24.1	47.0	1.50	1.50	0.00
2,100.0	10.50	329.21	2,096.1	54.9	-32.7	64.0	1.50	1.50	0.00
2,200.0	12.00	329.21	2,194.2	71.7	-42.7	83.5	1.50	1.50	0.00
2,300.0	13.50	329.21	2,291.7	90.7	-54.0	105.5	1.50	1.50	0.00
2,400.0	15.00	329.21	2,388.6	111.8	-66.6	130.2	1.50	1.50	0.00
2,500.0	16.50	329.21	2,484.9	135.1	-80.5	157.3	1.50	1.50	0.00
2,506.7	16.60	329.21	2,491.3	136.8	-81.5	159.2	1.49	1.49	0.00
End of Build 16.60° 2507' MD									
2,600.0	16.60	329.21	2,580.7	159.7	-95.1	185.9	0.00	0.00	0.00
2,700.0	16.60	329.21	2,676.5	184.2	-109.8	214.4	0.00	0.00	0.00
2,800.0	16.60	329.21	2,772.4	208.7	-124.4	243.0	0.00	0.00	0.00
2,900.0	16.60	329.21	2,868.2	233.3	-139.0	271.6	0.00	0.00	0.00
3,000.0	16.60	329.21	2,964.0	257.8	-153.6	300.1	0.00	0.00	0.00
3,100.0	16.60	329.21	3,059.9	282.4	-168.3	328.7	0.00	0.00	0.00
3,200.0	16.60	329.21	3,155.7	306.9	-182.9	357.3	0.00	0.00	0.00
3,300.0	16.60	329.21	3,251.5	331.5	-197.5	385.8	0.00	0.00	0.00
3,400.0	16.60	329.21	3,347.4	356.0	-212.1	414.4	0.00	0.00	0.00
3,500.0	16.60	329.21	3,443.2	380.5	-226.7	443.0	0.00	0.00	0.00
3,600.0	16.60	329.21	3,539.0	405.1	-241.4	471.5	0.00	0.00	0.00
3,700.0	16.60	329.21	3,634.8	429.6	-256.0	500.1	0.00	0.00	0.00
3,800.0	16.60	329.21	3,730.7	454.2	-270.6	528.7	0.00	0.00	0.00
3,900.0	16.60	329.21	3,826.5	478.7	-285.2	557.3	0.00	0.00	0.00
4,000.0	16.60	329.21	3,922.3	503.3	-299.9	585.8	0.00	0.00	0.00
4,081.0	16.60	329.21	4,000.0	523.1	-311.7	609.0	0.00	0.00	0.00
13 3/8" Casing									
4,100.0	16.60	329.21	4,018.2	527.8	-314.5	614.4	0.00	0.00	0.00
4,200.0	16.60	329.21	4,114.0	552.3	-329.1	643.0	0.00	0.00	0.00
4,300.0	16.60	329.21	4,209.8	576.9	-343.7	671.5	0.00	0.00	0.00
4,400.0	16.60	329.21	4,305.7	601.4	-358.4	700.1	0.00	0.00	0.00
4,500.0	16.60	329.21	4,401.5	626.0	-373.0	728.7	0.00	0.00	0.00
4,600.0	16.60	329.21	4,497.3	650.5	-387.6	757.2	0.00	0.00	0.00
4,700.0	16.60	329.21	4,593.2	675.1	-402.2	785.8	0.00	0.00	0.00

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Site:	Sanpete County, Utah	North Reference:	Grid
Well:	Rough Canyon Federal 30-1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,800.0	16.60	329.21	4,689.0	699.6	-416.9	814.4	0.00	0.00	0.00
4,900.0	16.60	329.21	4,784.8	724.1	-431.5	842.9	0.00	0.00	0.00
5,000.0	16.60	329.21	4,880.7	748.7	-446.1	871.5	0.00	0.00	0.00
5,100.0	16.60	329.21	4,976.5	773.2	-460.7	900.1	0.00	0.00	0.00
5,200.0	16.60	329.21	5,072.3	797.8	-475.3	928.6	0.00	0.00	0.00
5,300.0	16.60	329.21	5,168.2	822.3	-490.0	957.2	0.00	0.00	0.00
5,400.0	16.60	329.21	5,264.0	846.9	-504.6	985.8	0.00	0.00	0.00
5,500.0	16.60	329.21	5,359.8	871.4	-519.2	1,014.4	0.00	0.00	0.00
5,600.0	16.60	329.21	5,455.7	895.9	-533.8	1,042.9	0.00	0.00	0.00
5,700.0	16.60	329.21	5,551.5	920.5	-548.5	1,071.5	0.00	0.00	0.00
5,800.0	16.60	329.21	5,647.3	945.0	-563.1	1,100.1	0.00	0.00	0.00
5,900.0	16.60	329.21	5,743.2	969.6	-577.7	1,128.6	0.00	0.00	0.00
6,000.0	16.60	329.21	5,839.0	994.1	-592.3	1,157.2	0.00	0.00	0.00
6,100.0	16.60	329.21	5,934.8	1,018.7	-607.0	1,185.8	0.00	0.00	0.00
6,200.0	16.60	329.21	6,030.7	1,043.2	-621.6	1,214.3	0.00	0.00	0.00
6,300.0	16.60	329.21	6,126.5	1,067.7	-636.2	1,242.9	0.00	0.00	0.00
6,400.0	16.60	329.21	6,222.3	1,092.3	-650.8	1,271.5	0.00	0.00	0.00
6,500.0	16.60	329.21	6,318.2	1,116.8	-665.5	1,300.0	0.00	0.00	0.00
6,600.0	16.60	329.21	6,414.0	1,141.4	-680.1	1,328.6	0.00	0.00	0.00
6,700.0	16.60	329.21	6,509.8	1,165.9	-694.7	1,357.2	0.00	0.00	0.00
6,800.0	16.60	329.21	6,605.6	1,190.4	-709.3	1,385.8	0.00	0.00	0.00
6,900.0	16.60	329.21	6,701.5	1,215.0	-723.9	1,414.3	0.00	0.00	0.00
7,000.0	16.60	329.21	6,797.3	1,239.5	-738.6	1,442.9	0.00	0.00	0.00
7,100.0	16.60	329.21	6,893.1	1,264.1	-753.2	1,471.5	0.00	0.00	0.00
7,200.0	16.60	329.21	6,989.0	1,288.6	-767.8	1,500.0	0.00	0.00	0.00
7,300.0	16.60	329.21	7,084.8	1,313.2	-782.4	1,528.6	0.00	0.00	0.00
7,400.0	16.60	329.21	7,180.6	1,337.7	-797.1	1,557.2	0.00	0.00	0.00
7,500.0	16.60	329.21	7,276.5	1,362.2	-811.7	1,585.7	0.00	0.00	0.00
7,600.0	16.60	329.21	7,372.3	1,386.8	-826.3	1,614.3	0.00	0.00	0.00
7,700.0	16.60	329.21	7,468.1	1,411.3	-840.9	1,642.9	0.00	0.00	0.00
7,800.0	16.60	329.21	7,564.0	1,435.9	-855.6	1,671.4	0.00	0.00	0.00
7,900.0	16.60	329.21	7,659.8	1,460.4	-870.2	1,700.0	0.00	0.00	0.00
8,000.0	16.60	329.21	7,755.6	1,485.0	-884.8	1,728.6	0.00	0.00	0.00
8,100.0	16.60	329.21	7,851.5	1,509.5	-899.4	1,757.1	0.00	0.00	0.00
8,200.0	16.60	329.21	7,947.3	1,534.0	-914.1	1,785.7	0.00	0.00	0.00
8,300.0	16.60	329.21	8,043.1	1,558.6	-928.7	1,814.3	0.00	0.00	0.00
8,400.0	16.60	329.21	8,139.0	1,583.1	-943.3	1,842.9	0.00	0.00	0.00
8,500.0	16.60	329.21	8,234.8	1,607.7	-957.9	1,871.4	0.00	0.00	0.00
8,600.0	16.60	329.21	8,330.6	1,632.2	-972.5	1,900.0	0.00	0.00	0.00
8,700.0	16.60	329.21	8,426.5	1,656.8	-987.2	1,928.6	0.00	0.00	0.00
8,800.0	16.60	329.21	8,522.3	1,681.3	-1,001.8	1,957.1	0.00	0.00	0.00
8,900.0	16.60	329.21	8,618.1	1,705.8	-1,016.4	1,985.7	0.00	0.00	0.00
9,000.0	16.60	329.21	8,714.0	1,730.4	-1,031.0	2,014.3	0.00	0.00	0.00
9,100.0	16.60	329.21	8,809.8	1,754.9	-1,045.7	2,042.8	0.00	0.00	0.00
9,200.0	16.60	329.21	8,905.6	1,779.5	-1,060.3	2,071.4	0.00	0.00	0.00
9,300.0	16.60	329.21	9,001.5	1,804.0	-1,074.9	2,100.0	0.00	0.00	0.00
9,400.0	16.60	329.21	9,097.3	1,828.6	-1,089.5	2,128.5	0.00	0.00	0.00
9,500.0	16.60	329.21	9,193.1	1,853.1	-1,104.2	2,157.1	0.00	0.00	0.00
9,600.0	16.60	329.21	9,289.0	1,877.6	-1,118.8	2,185.7	0.00	0.00	0.00
9,700.0	16.60	329.21	9,384.8	1,902.2	-1,133.4	2,214.2	0.00	0.00	0.00
9,800.0	16.60	329.21	9,480.6	1,926.7	-1,148.0	2,242.8	0.00	0.00	0.00
9,900.0	16.60	329.21	9,576.4	1,951.3	-1,162.7	2,271.4	0.00	0.00	0.00
10,000.0	16.60	329.21	9,672.3	1,975.8	-1,177.3	2,300.0	0.00	0.00	0.00
10,022.1	16.60	329.21	9,693.5	1,981.2	-1,180.5	2,306.3	0.00	0.00	0.00

Gyrodata

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Sanpete County, Utah
Company:	Wolverine Gas & Oil Company	TVD Reference:	WELL @ 0.0ft (Original Well Elev)
Project:	Rough Canyon	MD Reference:	WELL @ 0.0ft (Original Well Elev)
Site:	Sanpete County, Utah	North Reference:	Grid
Well:	Rough Canyon Federal 30-1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
Begin Drop 1.50°/100'MD									
10,028.9	16.50	329.21	9,700.0	1,982.9	-1,181.5	2,308.2	1.49	-1.49	0.00
9 5/8" Casing									
10,100.0	15.43	329.21	9,768.3	1,999.7	-1,191.5	2,327.8	1.50	-1.50	0.00
10,200.0	13.93	329.21	9,865.1	2,021.5	-1,204.5	2,353.1	1.50	-1.50	0.00
10,300.0	12.43	329.21	9,962.4	2,041.1	-1,216.2	2,375.9	1.50	-1.50	0.00
10,400.0	10.93	329.21	10,060.4	2,058.5	-1,226.5	2,396.2	1.50	-1.50	0.00
10,500.0	9.43	329.21	10,158.8	2,073.6	-1,235.6	2,413.8	1.50	-1.50	0.00
10,600.0	7.93	329.21	10,257.6	2,086.6	-1,243.3	2,428.9	1.50	-1.50	0.00
10,700.0	6.43	329.21	10,356.8	2,097.3	-1,249.7	2,441.4	1.50	-1.50	0.00
10,800.0	4.93	329.21	10,456.3	2,105.8	-1,254.8	2,451.3	1.50	-1.50	0.00
10,900.0	3.43	329.21	10,556.1	2,112.1	-1,258.5	2,458.6	1.50	-1.50	0.00
11,000.0	1.93	329.21	10,656.0	2,116.1	-1,260.9	2,463.3	1.50	-1.50	0.00
11,100.0	0.43	329.21	10,755.9	2,117.9	-1,261.9	2,465.4	1.50	-1.50	0.00
11,128.8	0.00	329.21	10,784.7	2,118.0	-1,262.0	2,465.5	1.50	-1.50	0.00
End of Drop 0.00° 11129' MD									
11,200.0	0.00	0.00	10,855.9	2,118.0	-1,262.0	2,465.5	0.00	0.00	0.00
11,300.0	0.00	0.00	10,955.9	2,118.0	-1,262.0	2,465.5	0.00	0.00	0.00
11,400.0	0.00	0.00	11,055.9	2,118.0	-1,262.0	2,465.5	0.00	0.00	0.00
11,500.0	0.00	0.00	11,155.9	2,118.0	-1,262.0	2,465.5	0.00	0.00	0.00
11,600.0	0.00	0.00	11,255.9	2,118.0	-1,262.0	2,465.5	0.00	0.00	0.00
11,700.0	0.00	0.00	11,355.9	2,118.0	-1,262.0	2,465.5	0.00	0.00	0.00
11,800.0	0.00	0.00	11,455.9	2,118.0	-1,262.0	2,465.5	0.00	0.00	0.00
11,900.0	0.00	0.00	11,555.9	2,118.0	-1,262.0	2,465.5	0.00	0.00	0.00
12,000.0	0.00	0.00	11,655.9	2,118.0	-1,262.0	2,465.5	0.00	0.00	0.00
12,100.0	0.00	0.00	11,755.9	2,118.0	-1,262.0	2,465.5	0.00	0.00	0.00
12,200.0	0.00	0.00	11,855.9	2,118.0	-1,262.0	2,465.5	0.00	0.00	0.00
12,300.0	0.00	0.00	11,955.9	2,118.0	-1,262.0	2,465.5	0.00	0.00	0.00
12,400.0	0.00	0.00	12,055.9	2,118.0	-1,262.0	2,465.5	0.00	0.00	0.00
12,500.0	0.00	0.00	12,155.9	2,118.0	-1,262.0	2,465.5	0.00	0.00	0.00
12,600.0	0.00	0.00	12,255.9	2,118.0	-1,262.0	2,465.5	0.00	0.00	0.00
12,700.0	0.00	0.00	12,355.9	2,118.0	-1,262.0	2,465.5	0.00	0.00	0.00
12,800.0	0.00	0.00	12,455.9	2,118.0	-1,262.0	2,465.5	0.00	0.00	0.00
12,844.0	0.00	0.00	12,499.9	2,118.0	-1,262.0	2,465.5	0.00	0.00	0.00
PBHL 12844' MD									
12,844.1	0.00	0.00	12,500.0	2,118.0	-1,262.0	2,465.5	0.00	0.00	0.00

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL	0.00	0.00	12,500.0	2,118.0	-1,262.0	352,391.10	1,903,106.00	39° 18' 1.163 N	111° 50' 32.610 W
- plan hits target center									
- Point									

Gyrodatta

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Sanpete County, Utah
Company:	Wolverine Gas & Oil Company	TVD Reference:	WELL @ 0.0ft (Original Well Elev)
Project:	Rough Canyon	MD Reference:	WELL @ 0.0ft (Original Well Elev)
Site:	Sanpete County, Utah	North Reference:	Grid
Well:	Rough Canyon Federal 30-1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
1,200.0	1,200.0	20" Casing	20	26	
4,081.0	4,000.0	13 3/8" Casing	13-3/8	17-1/2	
10,028.9	9,700.0	9 5/8" Casing	9-5/8	12-1/4	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,400.0	1,400.0	0.0	0.0	KOP Begin Build 1.50°/100'MD	
2,506.7	2,491.3	136.8	-81.5	End of Build 16.60° 2507' MD	
10,022.1	9,693.5	1,981.2	-1,180.5	Begin Drop 1.50°/100'MD	
11,128.8	10,784.7	2,118.0	-1,262.0	End of Drop 0.00° 11129' MD	
12,844.0	12,499.9	2,118.0	-1,262.0	PBHL 12844' MD	

WOLVERINE OPERATING COMPANY OF UTAH, LLC

DRILLING PLAN

Rough Canyon Federal 30-1 **NE/4 SE/4 Section 30, Township 17 South, Range 1 East, S.L.B & M.** **Sanpete County, Utah**

Plan Summary:

It is planned to drill this confidential exploratory well as a directional hole to a proposed depth of 12,800' MD to test the Jurassic Twin Creek and Navajo. Well path deviation caused by subsurface geologic irregularities, plastic salts, possible loss circulation and hole instabilities are expected to be the primary drilling concerns in this area. No abnormal pressure is anticipated.

The planned location is as follows:

Surface Location: 288' FNL, 452' FWL, Section 32, T17S, R1E, S.L.B. & M.

Bottom Hole Location @ Navajo 1830' FSL, 810' FEL, Section 30, T17S, R1E, S.L.B. & M.

Thirty-two inch (32") conductor will be set to approximately 60' GL, or sufficient depth to reach the Flagstaff and for Boart Longyear rig to rig up to. and then a 26" hole will be drilled to approximately 1200', through the Tertiary Colton, Flagstaff and North Horn (conglomerates/sand/limestone) and part of the Cretaceous Indianola (conglomerates/sand/silt/shales) which extends from ~350 to 2440'. Twenty- inch (20") casing will be set from surface to 1200' and cemented to surface. After drilling that section, the Boart-Longyear rig will be moved off and Patterson Rig 304 will be moved on to finish the hole.

A 17.5" hole will be drilled directionally to approximately 4000' MD, which is projected to be into the Arapien formation, using a build rate of 1.5 degrees/100' with a KOP at 1400'. At 4000' MD, or once confirmed in the Arapien, 13-3/8" casing will be set and cemented to surface. A 12.25" hole will be directionally drilled from under the 13-3/8" casing at a projected angle of 16.6 degrees to approximately 10,100 (9800' TVD). At approximately 10,000' MD, the well will be allowed to drop at 1.5 degrees/100' until reaching the projected TD of 12,800' MD.

This plan provides for 9-5/8" casing string to be set into the Twin Creek, if required to address unstable hole conditions. If unstable hole conditions are present, after drilling into the Twin Creek to approximately 10,100' MD, the well will be logged and 9-5/8" casing will be set and cemented to ~3500 (500' inside 13-3/8" casing). An 8.5" hole will be drilled to an approximate maximum depth of 12,800' MD, where the well will be logged. If warranted by logging and drilling results, a 5.5" production liner will be set and cemented from TD to inside the 9-5/8" casing.

Drilling activities, with the construction of the well site and setting of conductor and 20" casing, are expected to commence in during July/August 2010, or as soon as the permit is issued.

Wolverine Operating Company of Utah, LLC
 APD Drilling Program
 Rough Canyon Federal 30-1

Well Name: Rough Canyon Federal 30-1

Surface Location: 288' FNL, 452' FWL, Section 32, T17S, R1E, S.L.B. & M
 NW/4 of the NW/4 Section 32, T17S, R1E, S.L.B. & M.
 Sanpete County, Utah

TD Bottom-Hole Location: 1830' FSL, 810' FEL, Section 30, T17S, R1E, S.L.B. & M
 NE/4 of the SE/4 Section 30, T17S, R1E, S.L.B. & M.
 Sanpete County, Utah

Elevations: 6171' GL (graded), 6191' KB (est.)

I. Geology:

Tops of important geologic markers and anticipated oil (O), gas (G), or water (W), content are as follows:

Formation	TVD Interval (KB)	MD Interval (KB)	Contents	Pressure Gradient
Colton	0-56'	0-56'		
Flagstaff	56-156'	56-156'		
North Horn	156-356'	156-356'		
Indianola	356-2800'	356-2830'		
Twist Gulch	2800-3863'	2830-3940'		
Arapien	3863-9765'	3940-10,100'		
Twin Creek	9765-10079'	10,100-10,400'	O,G,W	0.44 psi/ft
Navajo	10079'-11,900'	10,400-12,250'	O, G, W	0.44 psi/ft
Proposed TD	12,400'	~12,800'		

II. Well Control:

The contracted drilling rig will have a minimum 5M BOP system. BOPE will be in place and tested as a 5M system prior to drilling out the surface casing shoe. See attached schematic of BOPE.

A. The BOPE will, as a minimum, include the following:

Wellhead Equipment (5M Min.):

BOPE Item	Flange Size and Rating
Annular Preventer	13-5/8" 5M
Double Rams (5" Pipe - top, Blind - bottom)	13-5/8" 10M
Drilling Spool w/ 2 side outlets (4" Choke Line, 4" Kill Line)	13-5/8" 10M x 13-5/8" 10M
Single Ram (Pipe)	13-5/8" 10M
DSA	13-5/8" 10M x 13-5/8" 5M
Casing Head (13-5/8" SOW w/ two 2-1/16" SSO's)	13-5/8" 5M

Auxiliary Equipment (5M Min.):

BOPE Item
Choke Line with 2 valves (3" minimum)
Kill Line with 2 valves and one check valve (2" Minimum)
2 Chokes with one remotely controlled at a location readily accessible to the driller
Upper and lower kelly cock valves with handles

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Safety Valves to fit all drill string connections in use
Inside BOP or float sub
Pressure gauge on choke manifold
Fill-up line above the uppermost preventer
Wear bushing in casing head

- A. **Choke manifold** will be functionally equipped and sized at a minimum as shown on the attached diagram. All choke lines will be straight lines unless turns have tee blocks or are targeted with running tees, and all choke lines will be anchored. All valves (except chokes) in the kill line choke manifold and choke line will be full opening and allow straight through flow.
- B. **System accumulator** will have sufficient capacity to open the hydraulically-controlled gate valve and close all rams plus the annular preventer (3 ram system will have added 50 percent safety factor to compensate for any fluid loss in the control system or preventers) and retain a minimum pressure of 200 psi above pre-charge on the closing manifold without use of the closing unit pumps. The fluid reservoir capacity shall be double the usable fluid volume of the accumulator system capacity and the fluid level of the reservoir shall be maintained at the manufacturer's recommendations. The accumulator will have two (2) independent power sources available to close the preventers. Nitrogen bottles may be one of those sources, and if so, will have charge maintained per manufacturer's specifications.
- C. **Accumulator pre-charge pressure test** will be conducted prior to connecting the closing unit to the BOP stack and at least once every 6 months. The accumulator pressure will be corrected if the measured precharge pressure is found to be above or below the maximum or minimum specified limits. Only nitrogen gas will be used to precharge.
- D. **Power for the closing unit pumps** will be available to the unit at all times so that the pumps will automatically start when the closing valve manifold pressure has decreased to the pre-set level.
- E. **Accumulator pump capacity** will be such that, with the accumulator system isolated from service, the pumps will be capable of opening the hydraulically-operated gate valve (if so equipped), plus closing the annular preventer on the smallest size drill pipe to be used within 2 minutes, and retaining a minimum of 200 psi above the specified accumulator pre-charge pressure.
- F. **Locking devices**, either manual (i.e., hand wheels) or automatic, will be installed on the ram type preventers. A valve will be installed in the closing line as close as possible to the annular preventer to act as a locking device. This valve shall be maintained in the open position and shall be closed only when the power source for the accumulator system is inoperative.
- G. **Remote controls** will be readily accessible to the driller and will be capable of both opening and closing all preventers. Master controls shall be at the accumulator and shall be capable of opening and closing all preventers and the choke line valve.
- H. **Well control equipment testing** will be performed using clear water when the equipment is initially installed, whenever any seal subject to test pressure is broken, following related repairs, and as a minimum, every 30-day interval. The tests will apply to all related well control equipment.

Ram type preventers and associated equipment will be isolated and tested to 5000 psi. The annular preventer will be tested to 2500 psi. Pressure shall be maintained for at least 10 minutes or until requirements of test are met, whichever is longer, for all tests. A casing head valve will be open below the test plug during testing of the BOP stack. Valves will be tested from the working pressure side with all down-stream valves open. Kill line valves will be tested with the check valve held open or the ball removed.

Pipe and blind rams will be activated each trip, but not more than once a day. The annular preventers will be functionally operated at least weekly. A pit level drill will be conducted weekly for each crew. All BOPE drills and tests will be recorded in the IADC driller's log.

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III. Casing and Cementing:

A. Casing Program (all new casing):

Hole Size	Casing Size	Weight	Grade	Connection	Coupling Diameter	Setting Depth, MD
36"	32", 3/8" wall	126.7	B Line Pipe	PE	NA	0-72 DF
26"	20"	106.5	J-55	BTC	21.00	0' - 1200' DF
17.5"	13.375"	68	J-55	BTC	14.375	0' - 4000' DF
12.25"	9.625"	53.5	L-80	LTC	10.625	0' - 6000' DF
12.25"	9.625"	53.5	P-110	LTC	10.625	6000'-10,100' DF
8.50"	5.5"	20	N-80	LTC	6.05	8100' - 12,800' DF

32-inch conductor-set at 50 GL (72' DF)

The 32" casing is used to allow drilling fluid to be diverted into hole and into tanks, as needed, by the Boart-Longyear. No design conducted on this pipe. It will be cemented with Class G neat cement, using a tremie pipe, placed in stages with a 2-inch pipe in the 32" x 36" OH annulus.

20", 106.5 #/ft, J-55 BTC casing set at 1200' DF

The 26" hole/20-inch casing section will be drilled vertically with Boart-Longyear rig. The casing design parameters are detailed below:

Burst: Worst case burst load occurs if the well experiences an influx of gas from 4000 feet TVD. Assume the casing is filled with gas. In that case, assuming a fresh water pore pressure gradient to 4000 ft TVD and a gas gradient equal to 0.1 psi/ft, maximum burst differential pressure would occur at the surface:

$P = 0.433 \times 4000 - 0.1 \times 4000 = 1332$ psi. The selected casing, 20" 106.5#/ft J-55 BTC, has burst strength of 2410 psi. The burst design factor is: $DF_b = \frac{2410}{1332} = 1.81, 1.81 > 1.1$, therefore OK.

Collapse: Worst case collapse load occurs if the casing is evacuated. Collapse pressure attributed to fresh water pore pressure gradient is: $P = 0.433 \times 1200 = 520$ psi. The selected casing has collapse strength of 770 psi. The collapse design factor is: $DF_c = \frac{770}{520} = 1.48, 1.48 > 1.125$, therefore OK.

Tension: String weight in air is: $T = 106.5 \times 1200 = 127,800$ lb. Joint strength is 1596 kips. The tension design factor in air is: $DF_t = \frac{1596000}{127800} = 12.5, 12.5 > 1.8$, therefore OK.

Cementing Program:

20" casing will be cemented from setting depth (1200' MD DF) to surface and topped out with premium cement if necessary. Hardware will include a guide shoe, float collar, top plug, and a minimum of one centralizer per joint on the bottom three (3) casing joints. Water or other preflush fluid pumped ahead of the slurry will separate cement from the drilling fluids. Cement volumes are based on 50% excess in the openhole, 700 feet of 10.5 ppg lead cement from surface to 700 feet and 500 feet of 15.8 ppg tail cement from 700 feet to 1200 feet.

Cement: Lead: 380 sacks Varicem cement, 10.5 ppg, 4.12 cf/sx Yield.

Tail: 1015 sacks Premium cement, 15.8 ppg, 1.19 cf/sk Yield

Wolverine Operating Company of Utah, LLC
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13-3/8", 68 #/ft, J-55 BTC casing set at 4000' MD DF

The 17-1/2" hole/13-3/8" casing section will be drilled directionally drilled with Patterson Rig 304 into the top of the Arapien formation, where casing will be set and cemented to surface. The casing design parameters are detailed below:

Burst: Worst case burst load occurs if the well experiences an influx of gas from 9800 feet TVD. Assume the casing is 90% filled with gas. In that case, assuming a fresh water pore pressure gradient to 9800 ft, 9 ppg fluid inside the casing and a gas gradient equal to 0.1 psi/ft, maximum burst differential pressure would occur at the surface: $P = 0.433 \times 9800 - 0.1 \times 9800 \left(\frac{9.0}{19.25} \right) - 0.1 \times 0.9 \times 9800 = 2903$ psi. The selected casing, 13 3/8 68#/ft J-55 BTC has burst strength of 3450 psi. The burst design factor is:

$$DF_b = \frac{3450}{2903} = 1.18, 1.18 > 1.1, \text{ therefore OK.}$$

Collapse: Worst case collapse load occurs if the casing is evacuated. Collapse pressure attributed to fresh water pore pressure gradient is: $P = 0.433 \times 4000 = 1732$ psi. The selected casing has collapse strength of 1950 psi. The collapse design factor is: $DF_c = \frac{1950}{1732} = 1.126, 1.126 > 1.125, \text{ therefore OK.}$

Tension: String weight in air is: $T = 68 \times 4000 = 272,000$ lb. Tube strength is 1069 kips. The tension design factor in air is: $DF_t = \frac{1069000}{272000} = 3.93, 3.93 > 1.8, \text{ therefore OK.}$

Cementing Program:

13-3/8" casing will be cemented from setting depth (4000' MD DF) to surface in a single stage using the following mix. Hardware will include a guide shoe, float collar, top plug, and a minimum of one centralizer per joint on the bottom three (3) casing joints. Water or other preflush fluid pumped ahead of the slurry will separate cement from the drilling fluids. Cement volumes are based on 50% excess in the openhole, 3500 feet of 10 ppg lead cement from surface to 3500 feet and 500 feet of 13 ppg tail cement from 3500 to 4000 feet.

Cement: Lead: 1050 sacks Light System, 10 ppg, 3.39 cf/sx Yield

Tail: 375 sacks 50/50 Poz, 13.9 ppg, 1.57 cf/sx Yield

9-5/8", 53.5 #/ft, L-80 and P-110 LTC casing set at 10,100' MD DF (~9800' TVD)

The 12-1/4" hole/9-5/8" casing section will be drilled directionally with Patterson Rig 304 into the top of the Twin Creek formation, where 9-5/8" casing will be set cemented to inside the 13-3/8" casing. The casing design parameters are detailed below:

Burst: Worst case burst load occurs if the well experiences an influx of gas from 12,500 feet TVD. Assume the casing is filled with gas. In that case, assuming a fresh water pore pressure gradient to 12,500 ft TVD and a gas gradient equal to 0.1 psi/ft, maximum burst differential pressure would occur at the surface:

$$P = 0.433 \times 12500 - 0.1 \times 12500 = 4163 \text{ psi. The selected casing, 9 5/8 53.5#/ft L-80 LTC has burst strength of 7930 psi. The burst design factor is: } DF_b = \frac{7930}{4163} = 1.90, 1.90 > 1.1, \text{ therefore OK.}$$

Collapse: Worst case collapse load occurs if the casing is evacuated. Collapse pressure attributed to fresh water pore pressure gradient is: $P = 0.433 \times 9800 = 4243$ psi. The selected casing has collapse strength of 6620 psi. The collapse design factor is: $DF_c = \frac{6620}{4234} = 1.564, 1.564 > 1.125, \text{ therefore OK.}$

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Alternate Collapse, salt considerations: The Arapien formation contains salt stringers throughout. The salt stringers, due to creep, can apply unusually high collapse loads to the casing. Wolverine standard design for this area is to design for 1 psi/ft of depth external pressure with a fresh water gradient inside the pipe and with a minimum design factor of 1.000. Arapien is predicted to occur from 3862' to 9765' TVD.

Maximum salt induced pressure applied to the 53.5# L-80 casing occurs at 6000 ft:

$P = 6000 - 0.433 \times 6000 = 3402$ psi. 9% 53.5# L-80 has collapse strength of 6620 psi. The collapse design factor across from salts in the L-80 casing is:

$$DF_c = \frac{6620}{3402} = 1.946, 1.946 > 1.000, \text{ therefore OK.}$$

Maximum potential collapse pressure occurs at TD of 9765', if there is a salt present at the base of the Arapien, and is: $P = 9765 - 0.433 \times 9765 = 5537$ psi. Switch over to 9% 53.5# P-110 LTC casing at 6000 ft and run that casing to TD of 9765' TVD. 9% 53.5# P-110 has collapse strength of 7950 psi. The collapse design factor across from salts in the P-110 casing is:

$$DF_c = \frac{7950}{5537} = 1.436, 1.436 > 1.000, \text{ therefore OK.}$$

Another maximum potential collapse pressure involves evacuating the string such as would occur if the well were swabbed below 7850 feet, the depth to the top of the liner. In this case, salt collapse load could be applied to the outside of the casing with no backup pressure on the inside of the casing.

$P = 7850$ psi.

$$DF_c = \frac{7950}{7850} = 1.013, 1.013 > 1.000, \text{ therefore OK.}$$

Tension: String weight in air is: $T = 53.5 \times 9800 = 524,300$ lb. Joint strength is 1047 kips. The tension design factor in air is: $DF_t = \frac{1047000}{524300} = 1.93, 1.93 > 1.8, \text{ therefore OK.}$

Cementing Program:

9-5/8" casing will be cemented from setting depth 10,100' MD) to 3500' (500 feet inside casing) in a single stage using the following mix. Hardware will include a guide shoe, two shoe joints, float collar, top plug, and a minimum of one centralizer per joint on the bottom three (3) casing joints. Water or other pre-flush fluid pumped ahead of the slurry will separate cement from the drilling fluids. Cement volumes are based on 25% excess in the openhole, 6100 feet of 14.4 ppg lead cement from 3500 to 9600 feet and 500 feet of 14 ppg tail cement from 9600 to 10,100 feet.

Cement: Lead 2030 sacks Light Standard, 14.4 ppg, 1.26 cf/sx Yield

Tail: 150 sacks Class G neat cement blend, 15.8 ppg, 1.53 cf/sx Yield

5-1/2", 20 #/ft, N-80 LTC casing liner set from 8100-12,800' MD DF (7850-12500' TVD)

The 8.5" hole/5-1/2" casing section will be drilled directionally with Patterson Rig 304 through the target Navajo to TD, where the formations will be logged and evaluated. If warranted a 5-1/2" liner would be set across the prospective pay zone and cemented to inside the 9-5/8" casing. The casing design parameters are detailed below:

Burst: Worst case burst load occurs at 12,400 ft TVD, just above a packer, with a tubing leak at surface.

Assume a fresh water pore pressure gradient, the well is producing from perforations at 12,500' TVD, the tubing is filled with gas and the packer fluid has a gradient of 0.465 psi/ft.

$P = 0.433 \times 12500 - 0.1 \times 12500 + 0.465 \times 12400 - 0.433 \times 12400 = 4559$ psi. The selected casing,

Wolverine Operating Company of Utah, LLC
APD Drilling Program
Rough Canyon Federal 30-1

5½ 20#/ft N-80 LTC has burst strength of 9190 psi. The burst design factor is: $DF_b = \frac{9190}{4559} = 2.02, 2.02 > 1.1$, therefore OK.

Collapse: Worst case collapse load occurs if the casing is evacuated. Collapse pressure attributed to fresh water pore pressure gradient is: $P = 0.433 \times 12500 = 5413$ psi. The selected casing has collapse strength of 8830 psi. The collapse design factor is: $DF_c = \frac{8830}{5413} = 1.631, 1.631 > 1.125$, therefore OK.

Tension: String weight in air is: $T = 20 \times 4700 = 94,000$ lb. Joint strength is 428 kips. The tension design factor in air is:

$$DF_t = \frac{428000}{94000} = 4.60, 4.60 > 1.8, \text{ therefore OK.}$$

Cementing Program:

This is a liner cement job. 8.5" hole will be drilled from 10,100' to 12800'MD. The liner will be suspended from drill pipe and a liner hanger. The 5-1/2" liner will be cemented over its entire length (~ 4700 feet of length from 8100' to 12800'MD). The 5-1/2" casing will be cemented from setting depth (12,800' MD) to 8100' MD (overlapping the 9-5/8" casing across the deep salts) in a single stage using the following mix. Hardware will include a guide shoe, two shoe joints, float collar, top plug, and a minimum of one centralizer per joint on the bottom three (3) casing joints and over the pay zones. Water or other preflush fluid pumped ahead of the slurry will separate cement from the drilling fluids.

Cement: 815 sacks Class G, 15.8 ppg, 1.53 Yield

Notes:

- Final casing cement volumes will be adjusted when open-hole caliper logs obtained.
- A minimum of 20 percent silica will be added to the cement slurry if bottom-hole temperature exceeds 230. Expected static BHT at 12,800' MD (12500' TVD) is 250 deg. F.
- Final cement slurry mix could be adjusted based vendor recommendation or vendor actually used for job. Cementing company has not been selected yet for this well.
- The BLM will be notified at least twenty-four hours prior to running and cementing the surface and production casing strings.
- The size, weight, grade, type of thread, number of joints, and footage of all casing run will be recorded in the driller's log. The amount and type of all cement pumped will be recorded in the driller's log.
- Adequate time will be allowed before drilling out for the cement at the casing shoe to achieve a minimum 500-psi compressive strength.
- All casing strings will be tested to 1500 psi before drilling out and if pressure declines by more than 10 percent in 30 minutes, corrective action will be taken.
- Before drilling more than 20 feet of new hole below each casing string, a pressure integrity test of the casing shoe will be performed to a minimum of the mud weight equivalent anticipated to control the pore pressure to the next casing depth or at total depth of the well.

Wolverine Operating Company of Utah, LLC
 APD Drilling Program
 Rough Canyon Federal 30-1

IV. Mud Program:

<u>Depth</u>	<u>Mud Weight (ppg)</u>	<u>Mud Type</u>	<u>Viscosity, s/qt</u>	<u>Fluid Loss</u>
A. 0 – 1200'	8.6 – 9.2	Fresh Water Mud	35 – 50	NC to 15 cc
1200' - 4000'	8.6- 9.0	LSND FW Mud	45 – 55	<8 cc
4000-10,100'	10.5-10.7	Salt Saturated Mud	45-50	<8 cc
10,100-12,800'	8.9-9.5	WBM, 50K chlorides	36-42	<8 cc

- A. After mudding up, slow pump rates will be taken daily and recorded in the driller's log.
- B. Visual mud monitoring equipment will be in place to detect volume changes indicating loss or gain of circulating fluid volume.
- C. Abnormal pressures are not anticipated. In the event such pressures are to be anticipated, electronic/mechanical mud monitoring equipment will be in place and include as a minimum: pit volume totalizer (PVT); stroke counter; and flow sensor.
- D. A mud test will be performed every 24 hours after mudding up to determine, as applicable: density, viscosity, gel strength, filtration, and pH.
- E. The 10M BOPE system is not required for conditions on this well and use of the trip tank is not anticipated.
- F. Gas detecting equipment will be installed in the mud return system, and hydrocarbon gas shall be monitored for pore pressure changes. The presence of Hydrogen Sulfide gas is not expected but appropriate precautions will be taken in the event that it is encountered.
- G. The need to vent combustible or noncombustible gas is not expected. If needed, a flare system designed to gather and burn all gas will be available. The flare line discharge will be located at least 150 feet from the well head and it will be positioned downwind of the prevailing wind direction. The flare line will have straight lines unless turns are targeted with running tees and it will be anchored. The flare system will have an effective method for ignition.
- H. Abnormal pressure is not expected. If abnormal pressure is to be anticipated, a mud-gas separator (gas buster) will be installed and operable beginning at a point at least 500 feet above any anticipated hydrocarbon zone of interest.

V. Evaluation:

- A. Mud Log: A mud logging unit will be in operation from a depth of approximately 1200 feet to TD. Samples will be caught, cleaned, bagged, and marked as required.
- B. Drill Stem Tests: There are no DSTs planned.
- C. Coring: There are no whole cores planned. Sidewall cores may be collected depending on log results.
- D. Wireline Logs: Wireline logs will be run as hole conditions allow from total depth to surface casing to assist in determining lithology and potential for hydrocarbon recovery. The logging tools will include: resistivity, density-neutron log, gamma ray, dip meter, and caliper.

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APD Drilling Program
Rough Canyon Federal 30-1

VI. Expected Bottom-Hole Pressure and Abnormal Conditions:

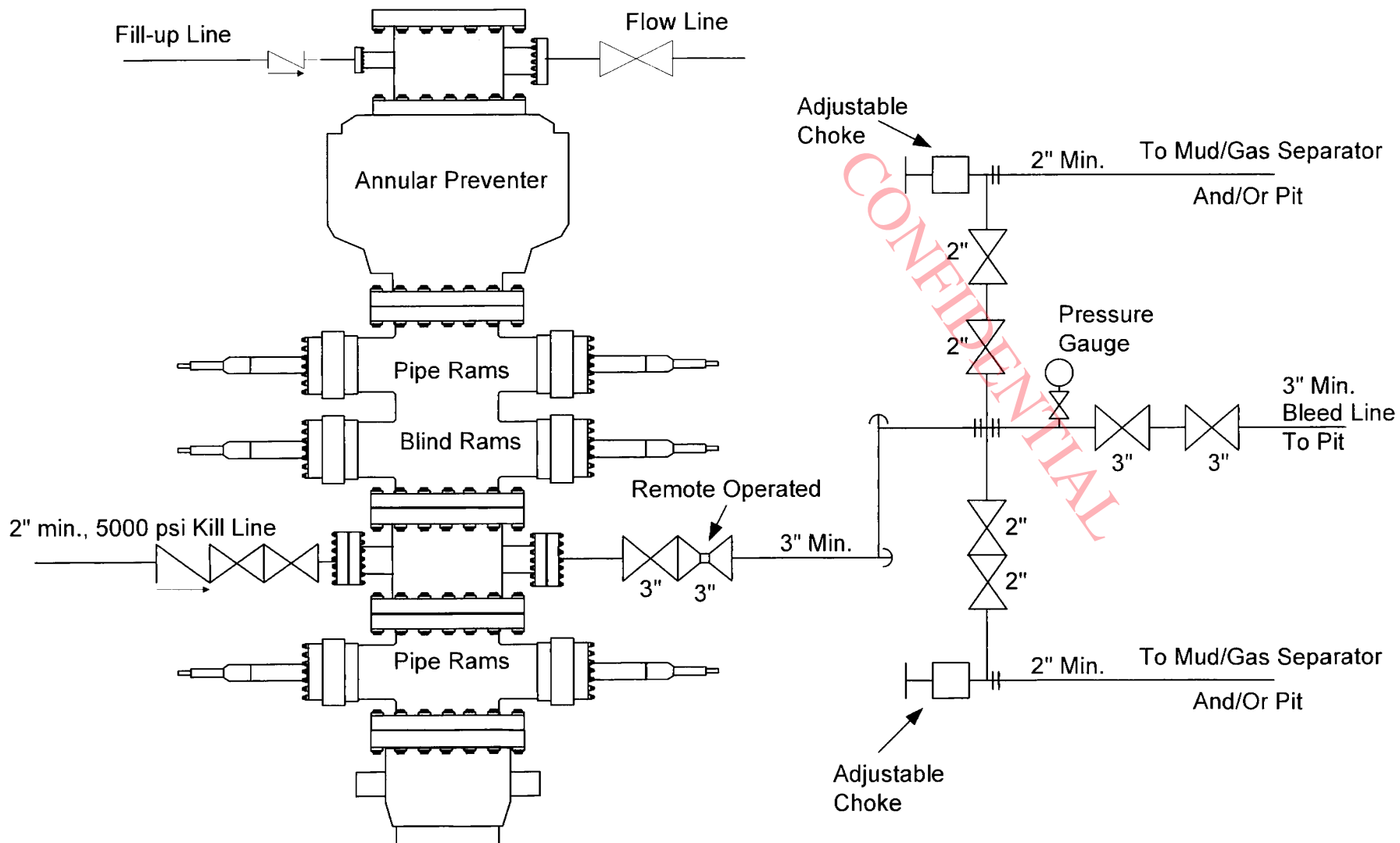
- A. Hydrogen Sulfide: The presence of Hydrogen Sulfide (H_2S) gas is possible and appropriate safety procedures are to be in place before penetrating the Twin Creek Formation.
- B. Pressure: No abnormally pressured zones are expected in this well. The pore pressure gradient for all potentially productive formations is expected to be approximately 0.44 psi/ft.
- C. Temperature: Bottom-hole temperature at TD is expected to be approximately 250 °F.

end




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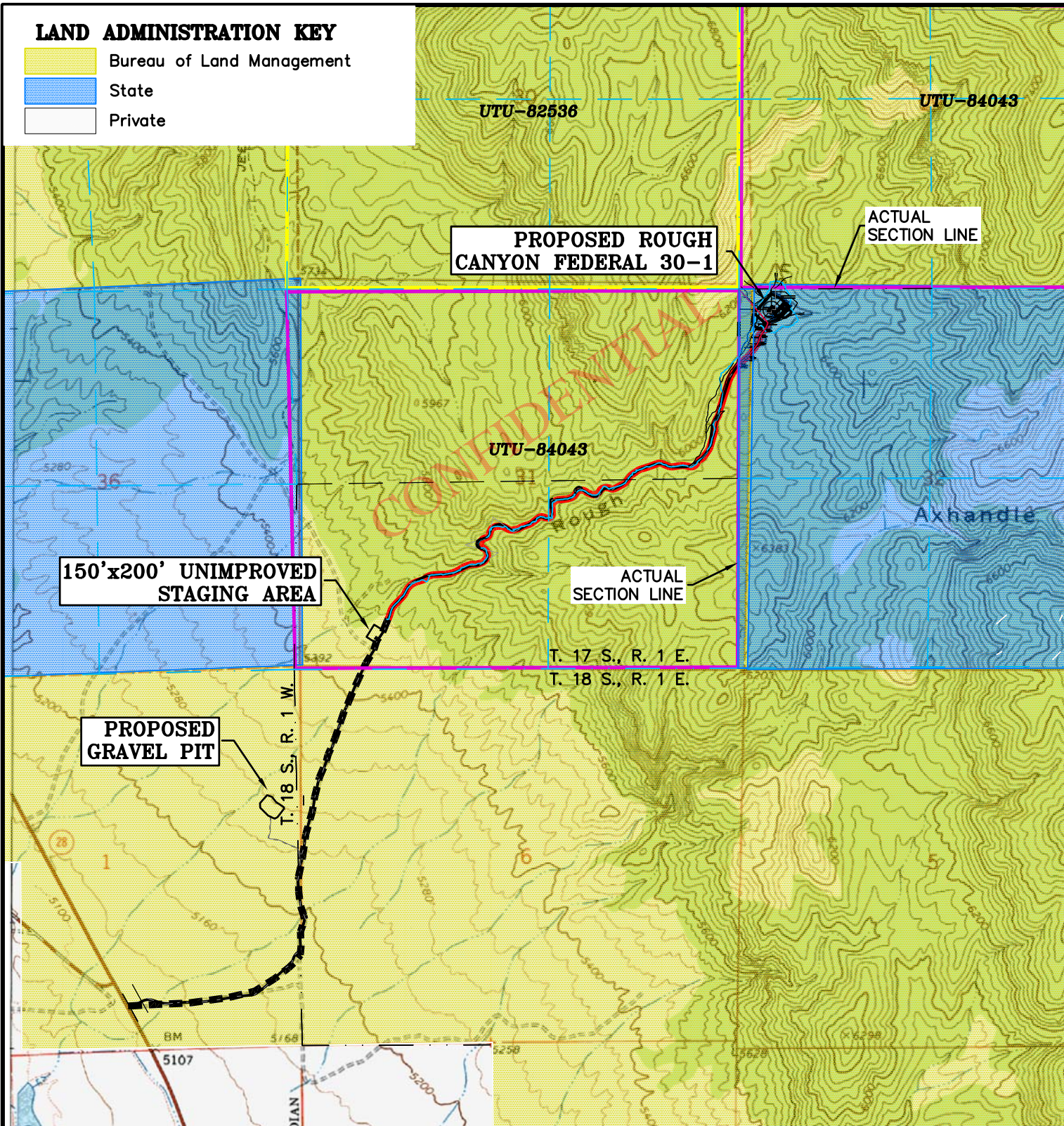
5k BOPE Schematic

(Not to Scale)



LAND ADMINISTRATION KEY

	Bureau of Land Management
	State
	Private



LEGEND

	PROPOSED LOCATION		EXISTING ROADWAY NEEDING IMPROVEMENT (1.42 mi.)
	UTU-84043 LEASE BOUNDARY		NEW ROADWAY ON BLM ONLY (1.38 mi.)
	UTU-82536 LEASE BOUNDARY		

Rough Canyon Federal 30-1
Section 32, T.17 S., R.1 E., S.L.B. & M.
288' FNL 452' FWL



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SCALE: 1"=2000'

Vicinity Map

FIGURE: 1

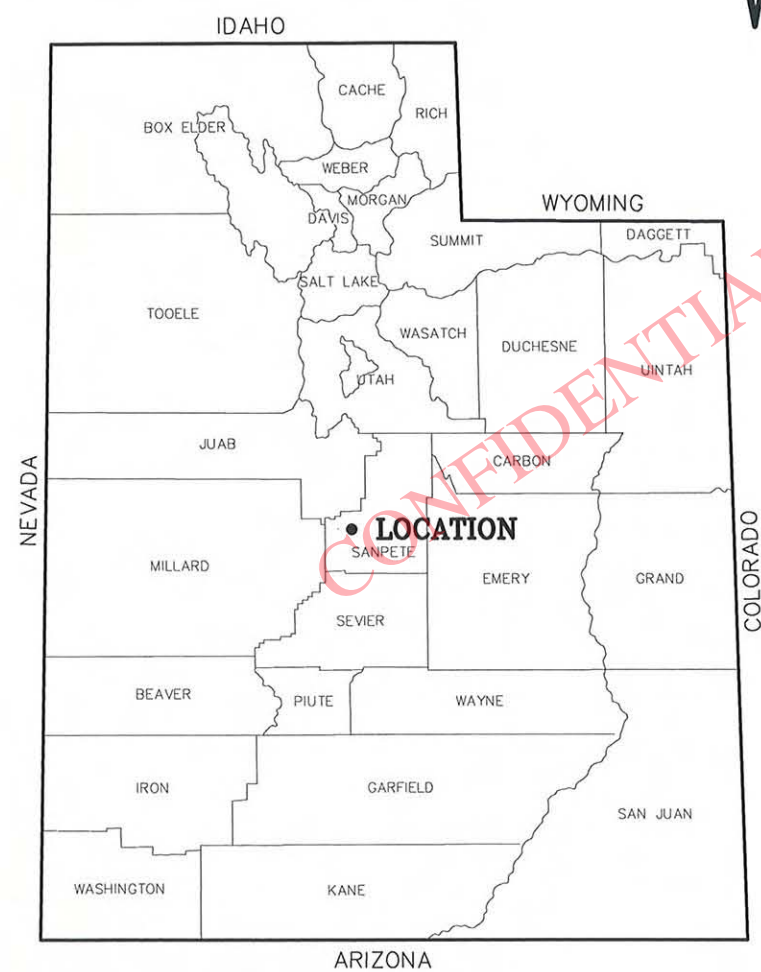
Wolverine Operating Co., of Utah, LLC

Rough Canyon Federal 30-1




DRAWN: L.G. 01-2010	PEN TBL: _1stndrd-hp2600.ctb	PROJECT: 0911-062	SHEET: 1
CHECK: D.R. 01-2010	FILE: VICINITY	LAST UPDATE: 3/30/2010	

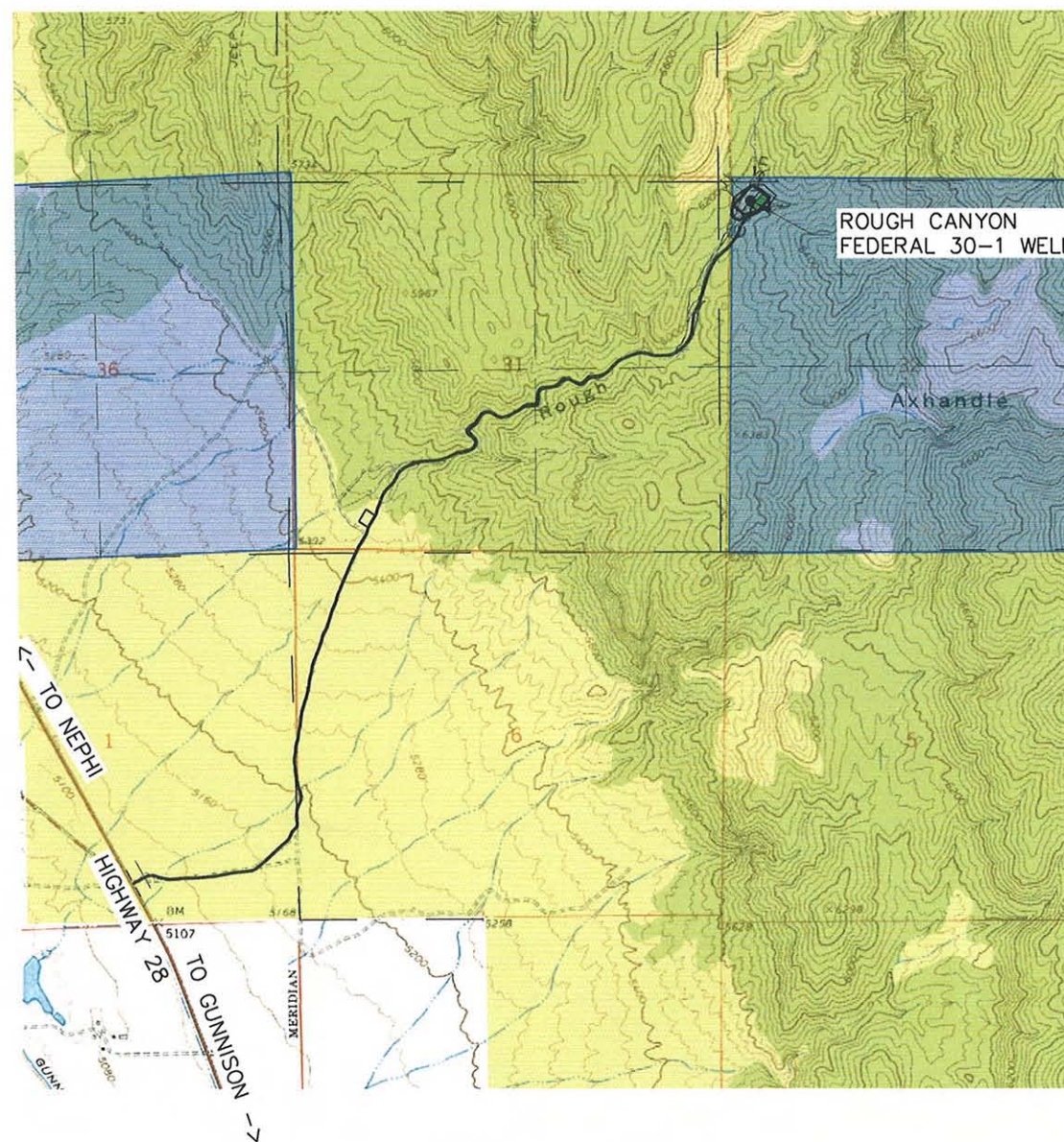
PROJECT NO.	SHEET NO.
0911-062	1

**WOLVERINE OPERATING CO. OF UTAH, L.L.C.
ROUGH CANYON FEDERAL 30-1
2010**



LAND ADMINISTRATION KEY

-  Bureau of Land Management
 State
 Private



APPROVAL

RECOMMENDED FOR APPROVAL:

ENGINEER

DATE _____

APPROVED:

DATE _____

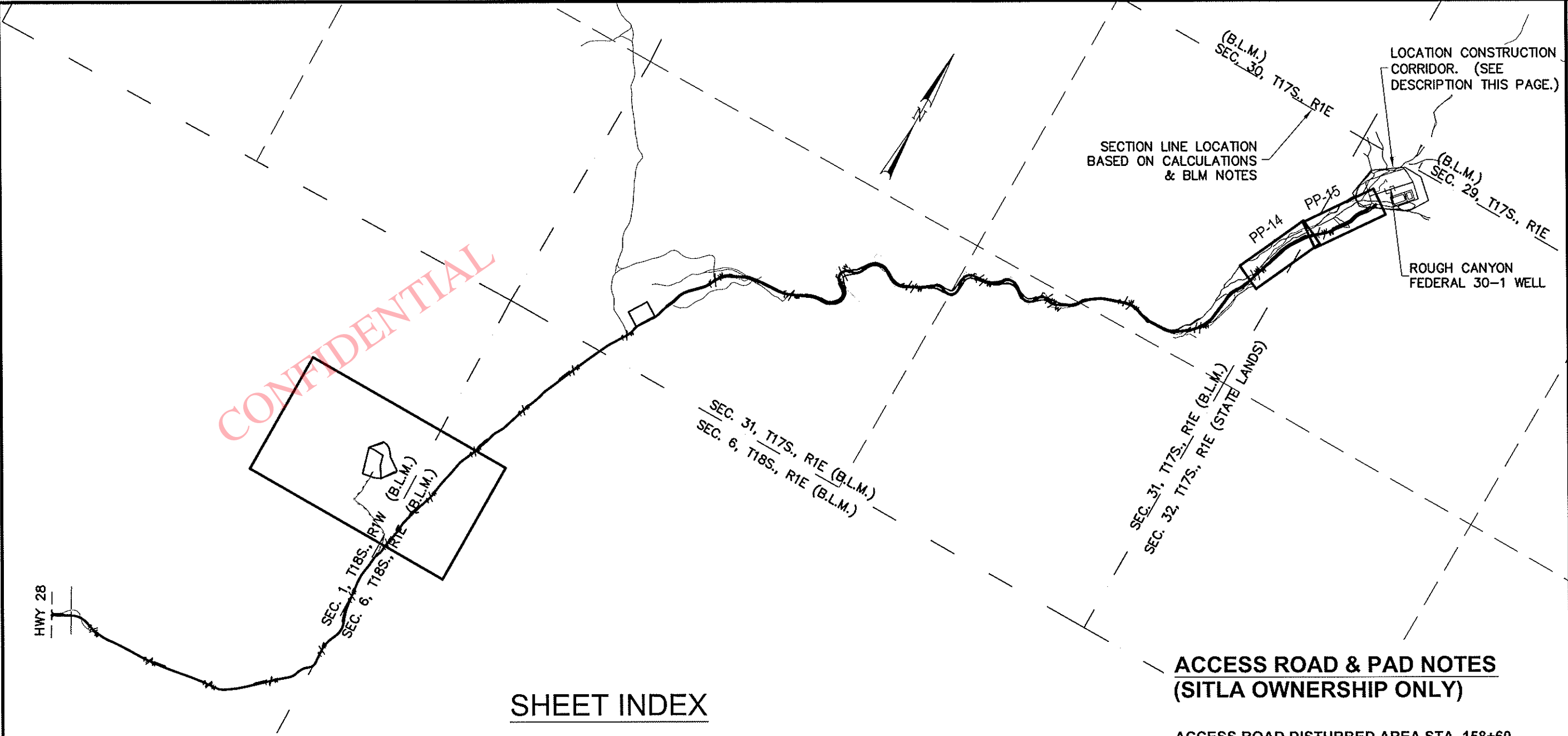
VICINITY MAP

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SHEET INDEX

STATE LAND LOCATION CONSTRUCTION CORRIDOR:

BEGINNING AT A POINT 218.23 FEET SOUTH AND 209.67 FEET EAST OF THE NORTHWEST CORNER OF SECTION 32, T.17S., R.1E., S.L.B. & M., THENCE N54°59'39"E 316.07 FEET; THENCE S88°24'15"E 173.91 FEET; THENCE S47°58'46"E 231.28 FEET; THENCE S32°43'30"W 214.49 FEET; THENCE S65°47'31"W 458.42 FEET; THENCE N57°09'56"W 138.96 FEET; THENCE N9°40'28"E 275.34 FEET, TO THE POINT OF BEGINNING. CONTAINING 4.937 ACRES.

STATE LAND ROAD CENTERLINE DESCRIPTION:

BEGINNING AT A POINT LOCATED S00°14'11"W ALONG THE WEST LINE OF SECTION 32, T.17 S., R.1 E., S.L.B. & M., 1050.88 FEET FROM THE NORTHWEST CORNER OF SAID SECTION 32; THENCE AROUND A 500.00 FOOT RADIUS CURVE TO THE RIGHT, 85.66 FEET (CHORD BEARS N47°01'47"E 85.55 FEET); THENCE N51°56'15"E 58.85 FEET; THENCE AROUND A 250.00 FOOT RADIUS CURVE TO THE LEFT, 65.22 FEET (CHORD BEARS N44°27'52"E 65.03 FEET); THENCE N36°59'28"E 173.15 FEET; THENCE AROUND A 150.00 FOOT RADIUS CURVE TO THE LEFT, 80.29 FEET (CHORD BEARS N21°39'28"E 79.33 FEET); THENCE N06°19'28"E 10.15 FEET; THENCE AROUND A 150.00 FOOT RADIUS CURVE TO THE RIGHT, 109.54 FEET (CHORD BEARS N27°14'43"E 107.12 FEET); THENCE N48°09'58"E 10.82 FEET; THENCE AROUND A 150.00 FOOT RADIUS CURVE TO THE LEFT, 74.48 FEET (CHORD BEARS N33°56'29"E 73.72 FEET); THENCE N19°43'00"E 56.47 FEET TO THE POINT OF TERMINATION, SAID POINT OF TERMINATION BEING LOCATED S40°29'09"E 619.23 FEET FROM THE NORTHWEST CORNER OF SAID SECTION 32.

ACCESS ROAD & PAD NOTES
(SITLA OWNERSHIP ONLY)

ACCESS ROAD DISTURBED AREA STA. 158+60 TO STA. 165+57 : 0.46 AC. (SITLA ONLY)

LOCATION DISTURBED AREA: 4.43 AC.

INDEX TO SHEETS	
SHT #	SHEET NAME
1	TITLE SHEET
1A	INDEX SHEET
TS-01 to TS-02	TYPICAL SECTIONS
PP-14 to PP-15	PLAN & PROFILE SHEETS
SP-01	LOCATION LAYOUT
CS-01	CROSS SECTIONS

REVISIONS

NO.	DATE	DESCRIPTION	BY

REMARKS

DATE: 02/05/2010
DWG NAME: 1A
SHT SET: ROUGH CANYON
PEN TBL: 1"=1000'

LAST UPDATE: 3/29/2010
BY: jonesanddemille.com

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DESIGN

DATE: 02-10

CHECK

DATE: 02-10

CHECK

DATE: 02-10

CHECK

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ROUGH CANYON FEDERAL 30-1

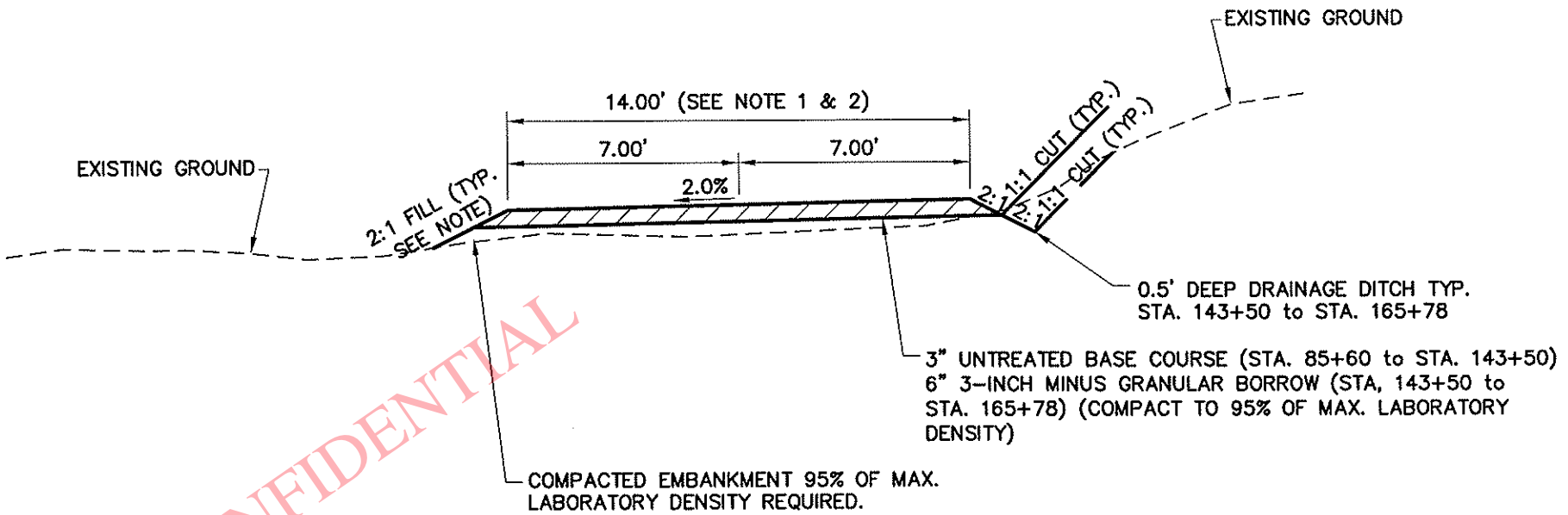
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PROJECT NUMBER: 0911-062

SANPETE

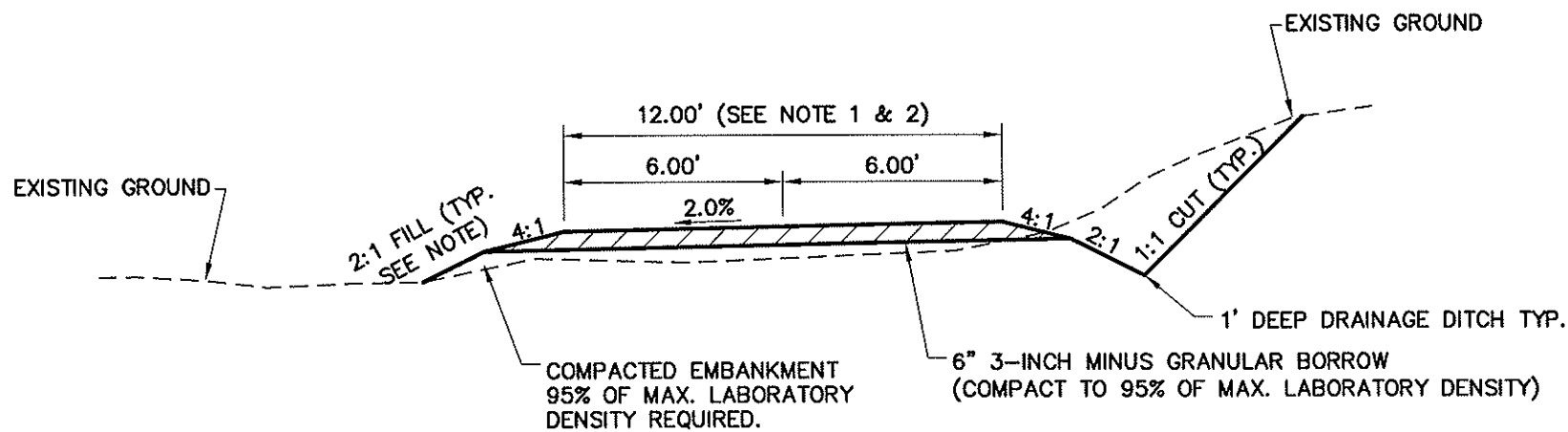
COUNTY

SHEET NO. 1A




**TYPE 1 TYPICAL SECTION
NEW ROAD CONSTRUCTION**

- NOTES:**
1. TYPE 1 TYPICAL SECTION APPLIES FROM STA. 85+60 TO STA. 165+57.4 1.52 MILES TOTAL (STA. 158+32.8 TO STA. 165+57.4 ON SITLA)
 2. 20-FOOT WIDTH AT TURN-OUTS.
 3. EXTRA WIDTH UP TO 40.2' TOTAL REQUIRED FOR CURVE WIDENING WHERE NOTED ON PLAN SHEETS.



**TYPE 2 TYPICAL SECTION
UPGRADE EXISTING ROAD**

- NOTES:**
1. TYPE 2 TYPICAL SECTION APPLIES FROM STA. 10+00 TO STA. 85+60 1.44 MILES
 2. 20-FOOT WIDTH AT TURN OUTS.
 3. CROSS SLOPE DIRECTION VARIES. SLOPE DIRECTION TO MATCH SURROUNDING NATURAL SLOPE.

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				Richfield & Price Utah									
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TYPICAL SECTIONS		APPROVAL RECOMM.		DATE		PROJECT DESIGN ENGINEER		DESIGN		CHECK		REVIEW	
PROJECT NUMBER: 0911-062		APPROVED:		DATE				DRAWN		L.G. 01-2010		DATE	
								QUANT.		CHECK		BY:	




DIP CROSS SLOPE VARIES (6% MAX.)
SLOPE TO DRAIN, MATCH
EX. GROUND AT OUTLET.



DRAINAGE DIP LOCATION STATIONS (@ CENTERLINE OF ROADWAY):

TYPICAL #3 (DRAINAGE DIP)

- NOTES:
1. WHERE DRAINAGE DIP IS LESS THAN 2'-FEET DEEP, 12" DEPTH GRANULAR BORROW REQ'D THROUGH ENTIRE DIP TO GRADE BREAK(S).
 2. CONSTRUCT DRAINAGE DITCH AS NECESSARY TO PROVIDE POSITIVE DRAINAGE AWAY FROM ALL DRAINAGE DIPS.

Wolverine Operating Co. of Utah, LLC		 Jones & DeMille Engineering, Inc. CIVIL ENGINEERING—SURVEYING—TESTING Richfield & Price Utah www.jonesanddemille.com		DESIGN: _____		CHECK: _____		REVIEW _____		ORIGINAL SUBMISSION FOR AUTHORIZATION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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SEE SHEET PP-13

152+00

153+00

154+00

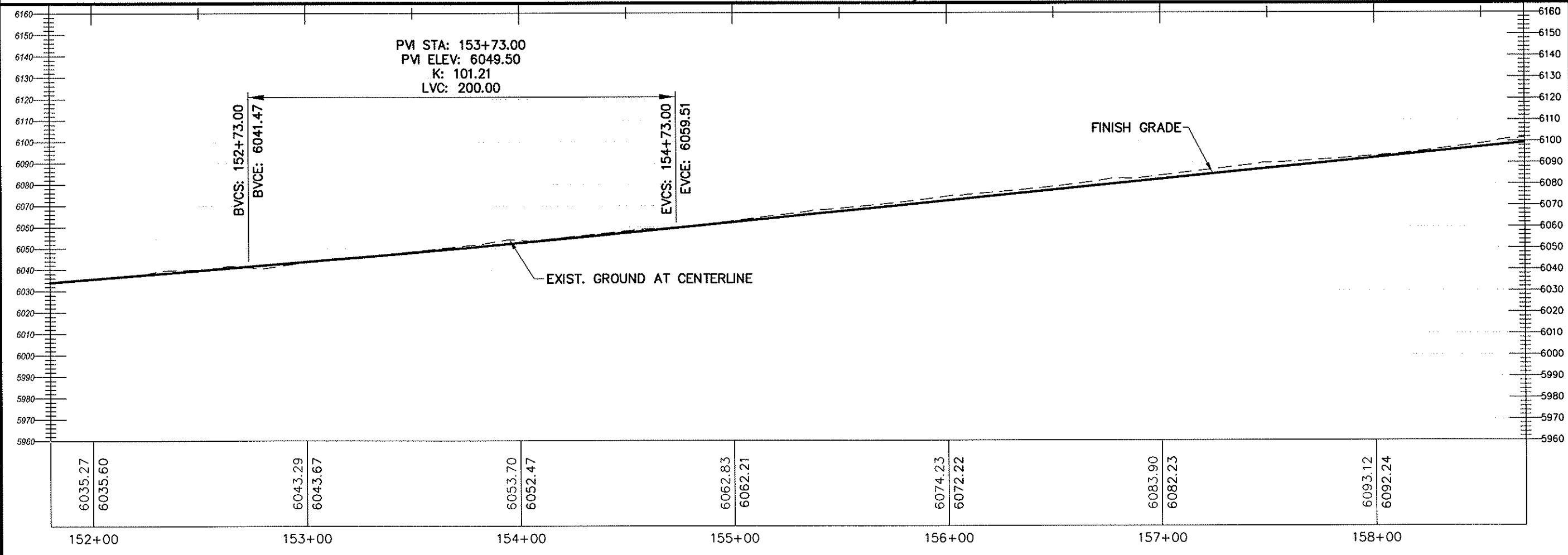
155+00

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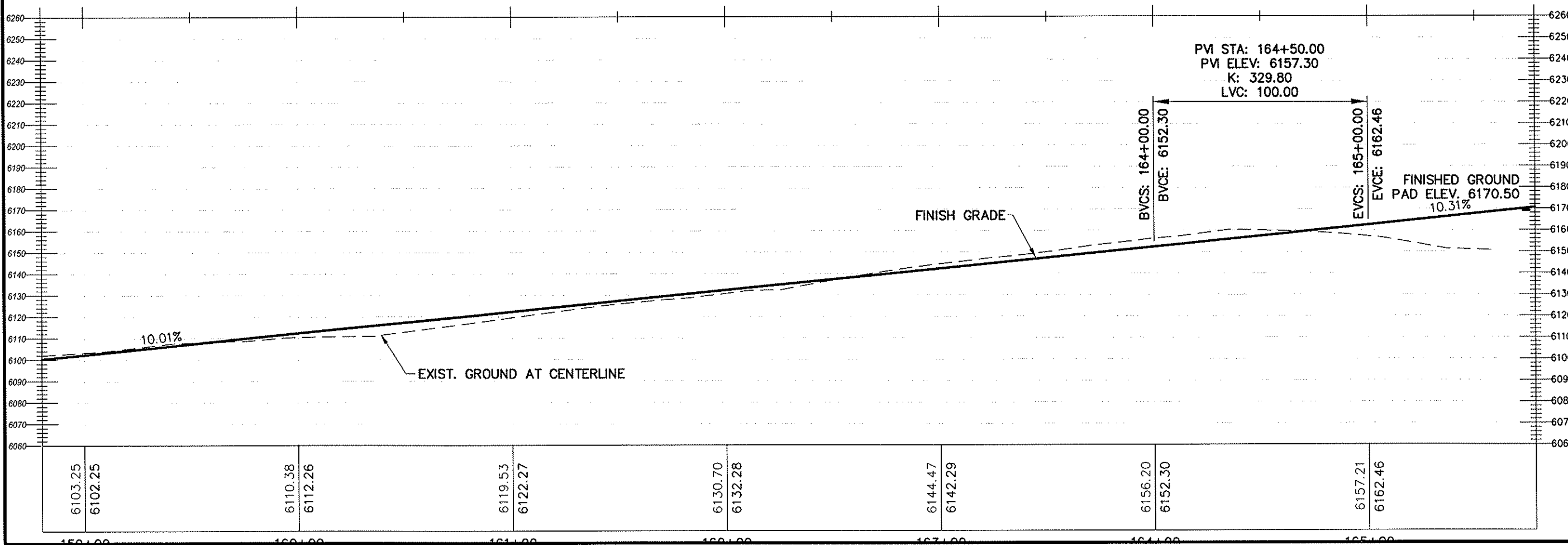
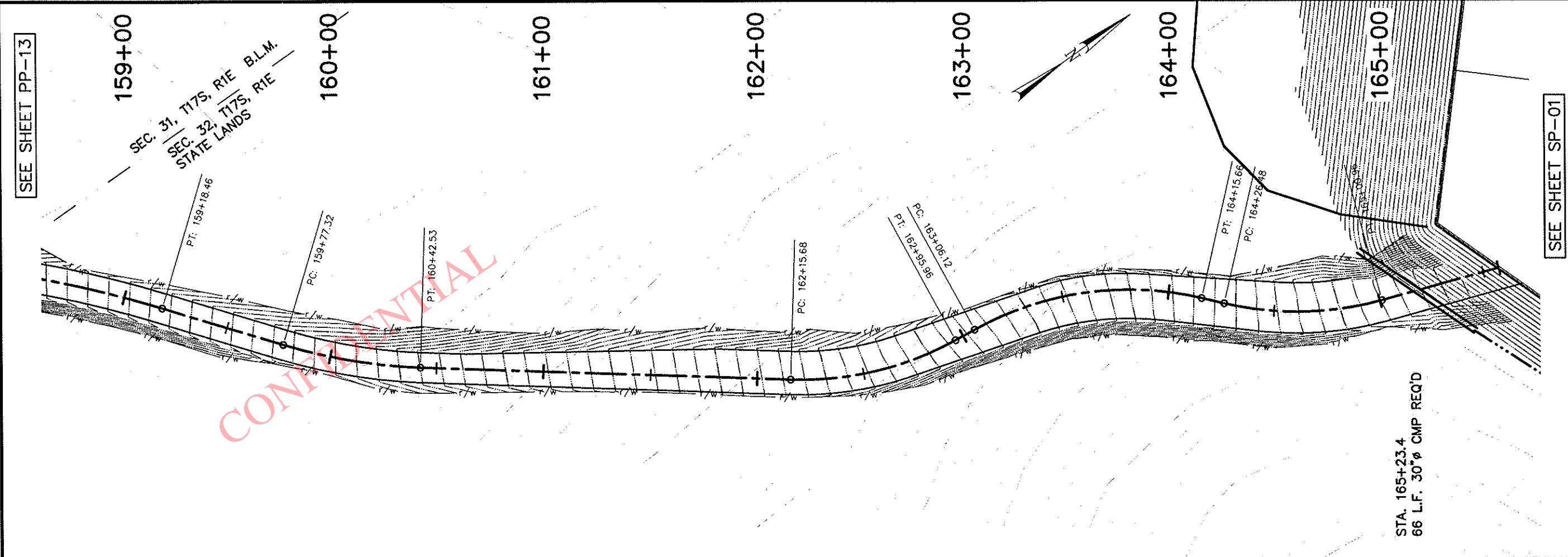
SEE SHEET PP-15



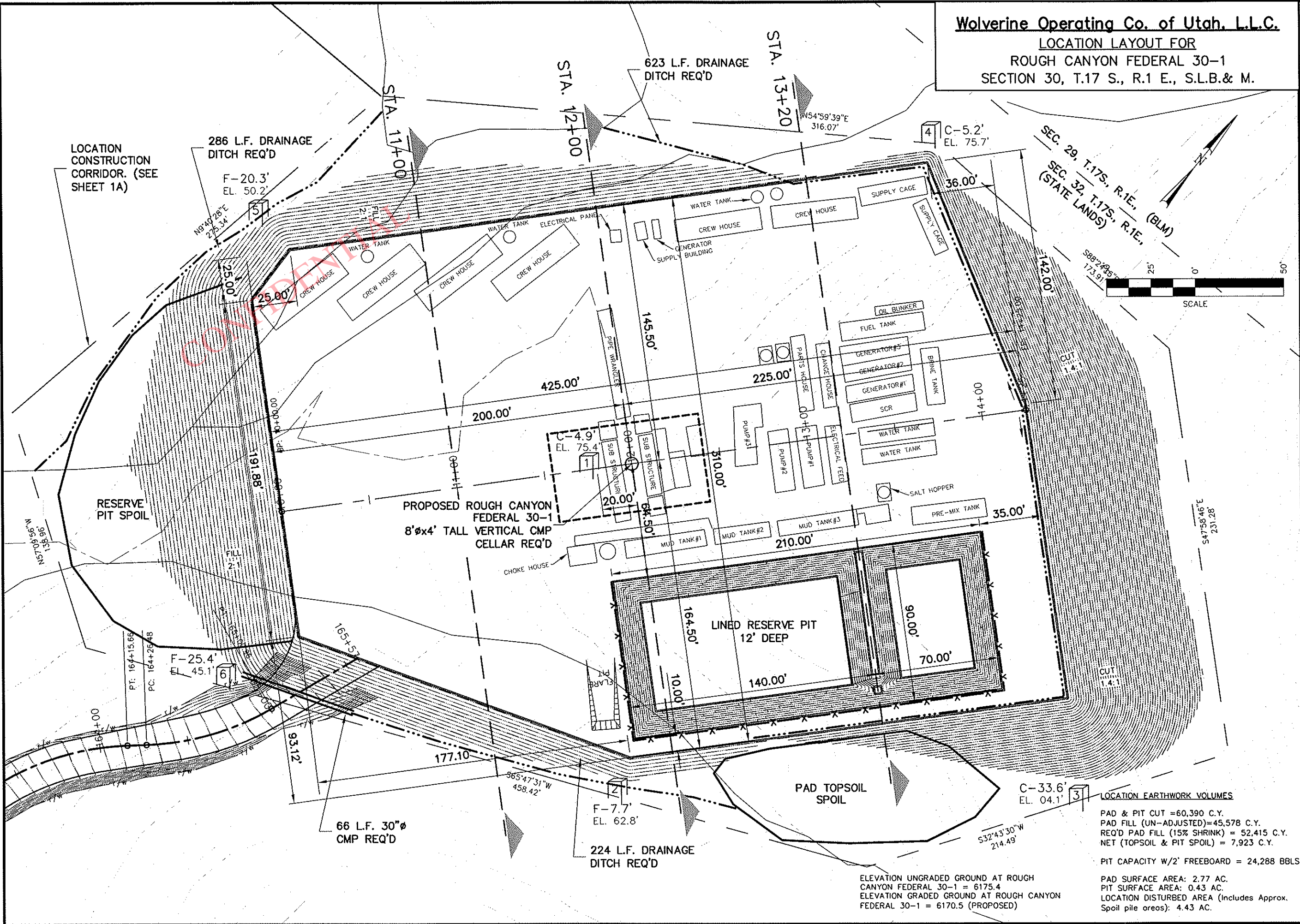
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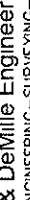
SEC. 31, T17S, R1E B.L.M.
SEC. 32, T17S, R1E
STATE LANDS

Wolverine Operating Co. of Utah, LLC		Jones & DeMille Engineering, Inc.	
ROUGH CANYON FEDERAL 30-1		CIVIL ENGINEERING-SURVEYING-TESTING	
SANPETE COUNTY		Richfield & Price Utah www.jonesanddemille.com	
PROJECT NUMBER: 0911-062		DESIGN: L.G. 01-2010	
SHEET NO. PP-14		DRAWN: D.R. 01-2010	
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		REVIEW: .	
		DATE: .	
		BY: .	
		REVISIONS	
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		SHT SET: ROUGH CANYON	
		DWG CREATED: 01/21/2010	
		LAST UPDATE: 3/29/2010	
		PEN TBL: .	
		REMARKS	
		DESIGN REQUEST BY	
		DATE	
		NO.	
		ORIGINAL SUBMISSION FOR AUTHORIZATION	
		DATE	
		NO.	

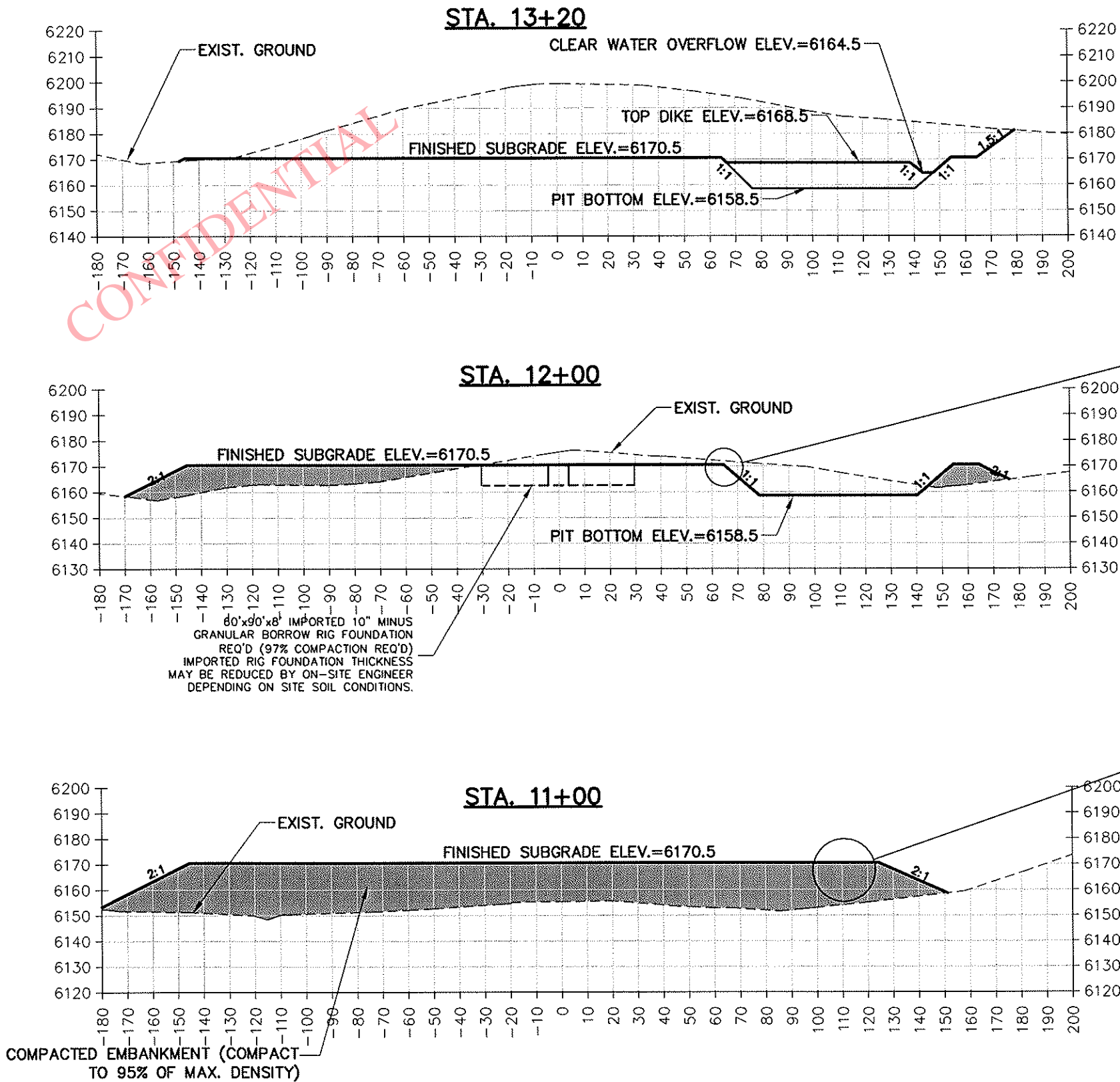



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SANPETE COUNTY		CIVIL ENGINEERING-SURVEYING-TESTING	
ROUGH CANYON FEDERAL 30-1		Richfield & Price Utah	
PLAN & PROFILE SHEET		www.jonesanddemille.com	
PROJECT NUMBER: 0911-062		DESIGN: L.G. 01-2010	
		DRAWN: D.R. 01-2010	
		CHECK: .	
		REVIEW: .	
		DATE: .	
		BY: .	
		REVISIONS	
		DWG NAME: PP-10-15	
		SHT SET: ROUGH CANYON	
		PEN TBL: 1/8"=50'	
		DWG CREATED: 01/21/2010	
		LAST UPDATE: 3/29/2010	



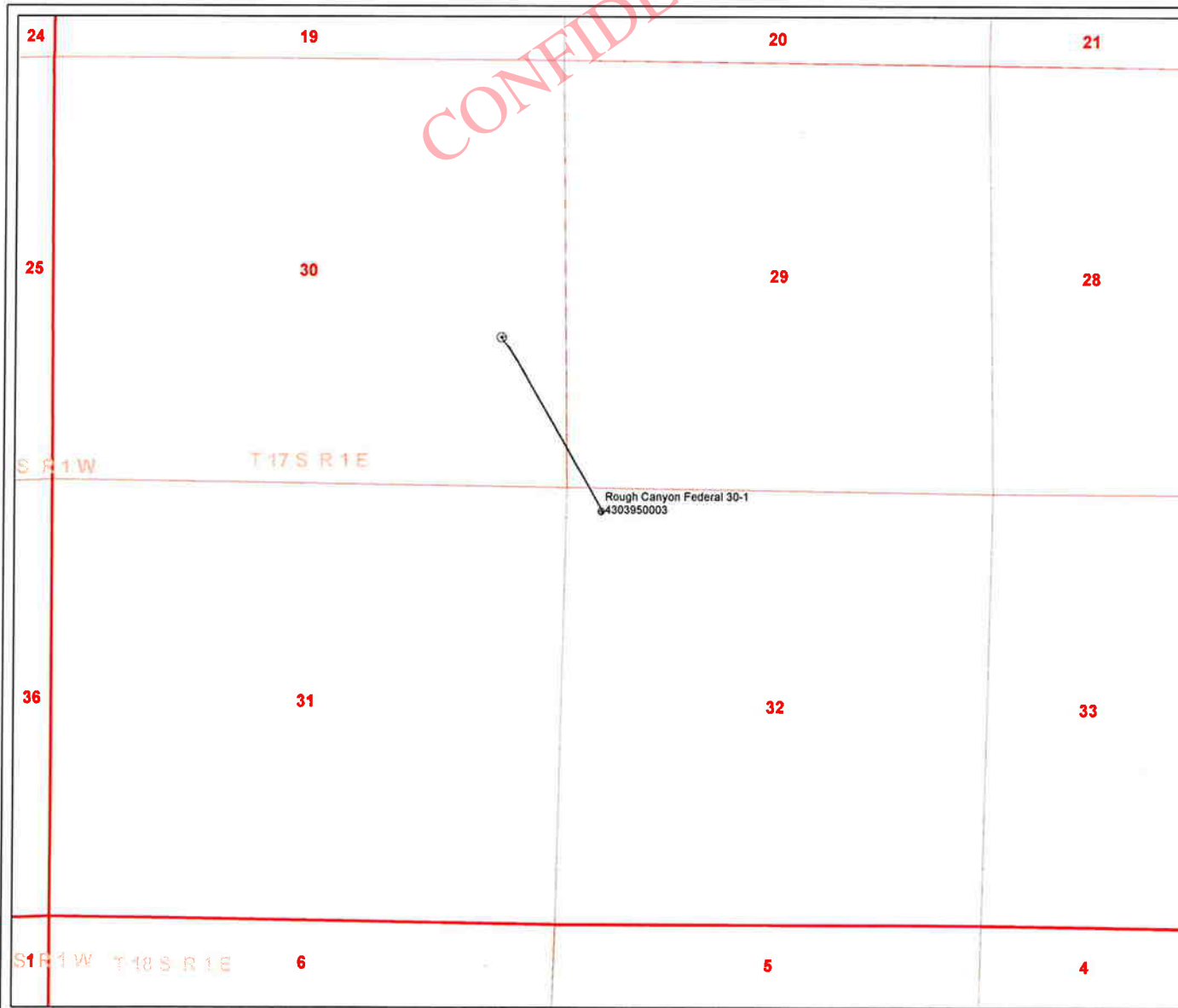
Wolverine Operating Co. of Utah, LLC				Jones & DeMille Engineering, Inc.				REVISIONS		SCALE: 1"=50'		DWG NAME: SITE 0911-062		DWG CREATED: 02/05/2010		LAST UPDATE: 4/13/2010	
ROUGH CANYON FEDERAL 30-1																	
LOCATION LAYOUT		PROJECT DESIGN ENGINEER		DESIGN		CHECK		REVIEW									
		DATE		DRAWN		L.G.		D.R.		DATE							
PROJECT NUMBER: 0911-062		DATE		QUANT.				CHECK		BY:							
SANPETE																	
COUNTY																	
SHEET NO. SP-01																	

Wolverine Operating Co. of Utah, L.L.C.
CROSS SECTIONS FOR
ROUGH CANYON FEDERAL 30-1
SECTION 32, T.17 S., R.1 E., S.L.B.& M.



Wolverine Operating Co. of Utah, LLC		<div><div></div><div><div>Jones & DeMille Engineering, Inc.</div><div>CIVIL ENGINEERING-SURVEYING-TESTING</div><div>Richfield & Price Utah</div><div>www.jonesanddemille.com</div></div></div>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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CONFIDENTIAL



API Number: 4303950003
Well Name: Rough Canyon Federal 30-1
Township 17.0 S Range 01.0 E Section 32
Meridian: SLBM
Operator: WOLVERINE OPERATING COMPANY OF UTAH, LLC

Map Prepared:
 Map Produced by Diana Mason

Units	Wells Query
STATUS	✕ - all other values
EXPLORATORY	APD - Approved Permit
GAS STORAGE	DEL - Spudded (Drilling Commenced)
HP PP OIL	GW - Gas Injection
HP SECONDARY	GS - Gas Storage
PI OIL	LA - Location Abandoned
PP GAS	LOC - New Location
PP GEOTHERMAL	OPS - Operation Suspended
PP OIL	PR - Plugged Abandoned
SECONDARY	PDW - Producing Gas Well
TERMINATED	RET - Returned APD
Fields	SOW - Shut-in Gas Well
Sections	SOW - Shut-in Oil Well
Township	TA - Temp. Abandoned
	TW - Test Well
	WDW - Water Disposal
	WWV - Water Injection Well
	WSW - Water Supply Well





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Utah Division of Water Rights



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Please direct questions and comments regarding the map server to: leeschler@utah.gov.

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State of Utah

GARY R. HERBERT
Governor

GREG BELL
Lieutenant Governor

Office of the Governor
PUBLIC LANDS POLICY COORDINATION

JOHN HARJA
Director

RECEIVED

MAY 24 2010

DIV. OF OIL, GAS & MINING

May 19, 2010

Gil Hunt
Utah Department of Natural Resources
Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Salt Lake City, UT 84114-5801

Subject: Rough Canyon Federal 30-1 well (wildcat) on Oil Well lease UTU-82536, Sanpete County
RDCC Project No. 11345

Dear Mr. Hunt:

The State of Utah, through the Public Lands Policy Coordination Office (PLPCO), has reviewed this project. Utah Code (Section 63J-4-601, *et. seq.*) designates PLPCO as the entity responsible to coordinate the review of technical and policy actions that may affect the physical resources of the state, and to facilitate the exchange of information on those actions among federal, state, and local government agencies. As part of this process, PLPCO makes use of the Resource Development Coordinating Committee (RDCC). The RDCC includes representatives from the state agencies that are generally involved or impacted by public lands management.

Division of Air Quality

The proposed project will be subject to R307-205-5: Fugitive Dust, of the Utah Air Quality Rules, due to the fugitive dust that may be generated during soil disturbance for the project. These rules apply to construction activities that disturb an area greater than 1/4 acre in size. A permit, known as an Approval Order, is not required from the Executive Secretary of the Air Quality Board, but steps need to be taken to minimize fugitive dust, such as watering and/or chemical stabilization, providing vegetative or synthetic cover or windbreaks. A copy of the rules can be found at www.rules.utah.gov/publicat/code/r307/r307.htm.

The State of Utah appreciates the opportunity to review this proposal and we look forward to working with you on future projects. Please direct any other written questions regarding this correspondence to the Public Lands Policy Coordination Office at the address below, or call Judy Edwards at (801) 537-9023.

Sincerely,

A handwritten signature in black ink, appearing to read "John Harja".

John Harja
Director

CONFIDENTIAL

From: Chris Fausett
To: Hill, Brad; Mason, Diana
CC: Irons, Charlie; jimdavis1@utah.gov
Date: 6/14/2010 11:16 AM
Subject: Wolverine Operating Company of Utah APD Approval

The APD for Wolverine's Rough Canyon Federal 30-1 (API #4303950003) has been reviewed and approved by SITLA, including archaeological clearance. As a condition of this approval, the applicant must complete a special use lease for the surface use of the well pad prior to beginning drilling activities. This lease is in process and near completion.

Please let me know if you have any questions.

Thanks,

Chris Fausett
Resource Specialist
State of Utah
School and Institutional Trust Lands Administration
675 East 500 South, Suite 500
Salt Lake City, UT 84102-2818
Phone: (801) 538-5139

ON-SITE PREDRILL EVALUATION**Utah Division of Oil, Gas and Mining**

Operator WOLVERINE OPERATING COMPANY OF UTAH, LLC
Well Name Rough Canyon Federal 30-1
API Number 43039500030000 **APD No** 2558 **Field/Unit** WILDCAT
Location: 1/4,1/4 NWNW **Sec** 32 **Tw** 17.0S **Rng** 1.0E 288 FNL 452 FWL
GPS Coord (UTM) 427743 4349587 **Surface Owner**

Participants

M. Jones (UDOGM), Charlie Irons (Wolverine), Kurt Higgins, Ed Bonner, and Jim Davis (SITLA), Stan Andersen (BLM), Darrin Robinson (Jones & DeMille), Glen Nebeker (Western Land Services).

Regional/Local Setting & Topography

Located in Rough Canyon in the San Pitch Mountain Range in central Utah. Northeast of Fayette, Utah approximately 4.5 miles. Access will come from the west off of Highway 28, then head northeasterly on BLM surface on an existing two-track along the valley floor that will be upgraded. This road dies out at the mouth of Rough Canyon. A new road will have to be built and maintained through Rough Canyon up the bottom of the stream channel for about 1.5 miles. Topography varies drastically along the sides of Rough Canyon along the access road and at the wellsite. The streambed topography maintains about an 8% grade along the route to the location, with a short 10% grade right at the access point onto the proposed location. The location sits on a small knoll between two drainages. The location and about the last 700 feet of access road is located on SITLA surface, with all the rest of the road and the bottom hole location being on BLM.

Surface Use Plan

Current Surface Use
Wildlife Habitat

New Road Miles	Well Pad	Src Const Material	Surface Formation
1.52	Width 310 Length 425	Onsite	

Ancillary Facilities

It may be necessary to store some equipment (pipe, mud, vehicles) off-site at a staging area before entering the mouth of Rough Canyon due to the smaller size well pad because of topographical constraints.

Waste Management Plan Adequate?**Environmental Parameters****Affected Floodplains and/or Wetlands Y**

location and access road will affect drainage of Rough Canyon in that the access road in the canyon is up the bottom of the streambed and the location will divert flow of drainages on 2 sides.

Flora / Fauna

Pinion Juniper Community.

Soil Type and Characteristics

rocky clay.

Erosion Issues Y

The material in the roadbed should impede erosion in Rough Canyon so that it is less than the current erosion. Armoring will be required at strategic points along the well pad to protect the pad fill from erosion.

Sedimentation Issues Y

Some sedimentation is possible from the disturbed areas of the pad and the access road.

Site Stability Issues N

Drainage Diversion Required? Y

both drainages (north and south side of the pad) will need to be diverted a little around the corners of the pad traveling from east to west.

Berm Required? Y

A berm will be required to keep fluids from leaving the well pad.

Erosion Sedimentation Control Required? Y

Armoring will be required at strategic points on the well pad to protect the pad from being eroded.

Paleo Survey Run? N Paleo Potential Observed? N Cultural Survey Run? Y Cultural Resources?

Reserve Pit

Site-Specific Factors

Site Ranking

Distance to Groundwater (feet)	>200	0
Distance to Surface Water (feet)	>1000	0
Dist. Nearest Municipal Well (ft)	>5280	0
Distance to Other Wells (feet)	>1320	0
Native Soil Type	High permeability	20
Fluid Type	TDS>5000 and	10
Drill Cuttings	Normal Rock	0
Annual Precipitation (inches)	10 to 20	5
Affected Populations		
Presence Nearby Utility Conduits	Not Present	0
Final Score		35

1 Sensitivity Level

Characteristics / Requirements

Dugout earthen (90x140x12). Liner required.

Closed Loop Mud Required? N Liner Required? Y Liner Thickness 12 Pit Underlayment Required?

Other Observations / Comments

The BLM had a concern during the pre-site regarding the access road at about the point where the access leaves BLM and enters SITLA surface. Stan Andersen was concerned about the cut into the slope to build the access road. Stan suggested running the road on top of the knoll instead. Wolverine contends that they need to stay below a 10% grade, and to get on top of the knoll would require close to double that. SITLA was fine with the road as it was staked on their surface. Title V right-of-way application has already been submitted to the BLM. There is about 1.42 miles of upgraded existing road, and about 1.38 miles of new road to be built on BLM lands. There is about 700 feet of new road to be built on SITLA lands.

I failed to invite DWR to the pre-site meeting. I contacted Mark Farmer on 5/11/2010 with DWR, Central Region @ 801-361-3744. He said he was unfamiliar with the pre-site process, which I explained to him and told him I would take time to meet him at the location to look at it with him since I forgot to invite him. He said he would look

at a map and get back to me if there were any concerns, but based on the section, township, and range he didn't see any concerns for wildlife.

I asked Darrin Robinson about the smaller location size for this well. He said originally when they staked this well they had the section lines staked wrong which necessitated a smaller pad to keep it on SITLA surface and within the topography constraints they have to work with. Those section lines have been re-surveyed in their correct positions and gives a little more room to work with. He said Wolverine already had things rolling with the permit when this was corrected and they didn't want to start over at that point. He said that Wolverine may submit a sundry to widen the pad after the permit is issued. Neither SITLA (Jim Davis) and I could see any problem with that.

Mark Jones
Evaluator

5/4/2010
Date / Time

CONFIDENTIAL

Application for Permit to Drill

Statement of Basis

6/14/2010

Utah Division of Oil, Gas and Mining

Page 1

APD No	API WellNo	Status	Well Type	Surf Owner	CBM
2558	43039500030000	SITLA	OW	S	No
Operator	WOLVERINE OPERATING COMPANY OF UTAH, LLC		Surface Owner-APD		
Well Name	Rough Canyon Federal 30-1		Unit		
Field	WILDCAT		Type of Work	DRILL	
Location	NWNW 32 17S 1E S 288 FNL 452 FWL		GPS Coord (UTM)	427803E	4349605N

Geologic Statement of Basis

This location is placed just to the east of the south central portion of the Gunnison Plateau area, near the extreme western edge of the Colorado Plateau physiographic province in western central Utah. Some people have characterized this area as being in the Basin and Range - Colorado Plateau transition zone. It is otherwise characterized as being astride the Sevier Overthrust Belt. The location is on state land about 5 miles north of Fayette, Utah, about 3.5 miles west southwest of the Sevier River in Sanpete County. This location falls just east of the trace of the Paxton Thrust at the north end of the Gunnison Anticline and west of the Plateau-bounding Wales-Gunnison backthrust fault. A well at this location will spud into a soil developed on the Tertiary age Colton Formation. The location is mapped as positioned in a graben valley in a generally well-faulted area. The area is in a primary valley fill recharge area near the transition to a valley fill discharge area. Aquifers with pristine to drinking water quality [400 to 600 mg/l Total Dissolved Solids (TDS)] ground water are likely to be encountered in the shallow sediments. The hole will be drilled with a fresh water and gel mud system to 4,000' TD to set the 13 3/8" surface casing. The intermediate hole will be drilled with a saturated salt mud system. It is anticipated that this mud system is designed to handle the evaporites of the Arapien Shale. Any water encountered in the Arapien Shale is likely to be of poor quality. A Division of Water Rights publication notes that aquifers in close proximity to the Arapien Shale are also likely to contain ground water with high TDS levels. A casing, cementing and drilling fluid program as proposed should be sufficient to control and isolate the poor quality ground waters expected to be encountered at that depth in a well at this location. No water rights have been filed on underground sources of water within a mile of the location.

Chris Kierst
APD Evaluator

5/18/2010
Date / Time

Surface Statement of Basis

On-site evaluation conducted May 4, 2010. In attendance was M. Jones (UDOGM), Charlie Irons (Wolverine), Kurt Higgins, Ed Bonner, and Jim Davis (SITLA), Stan Andersen (BLM), Darrin Robinson (Jones & DeMille), Glen Nebeker (Western Land Services).

Wolverine suggested that they would have traffic control personel posted both at the mouth of Rough Canyon and at the location. DOGM recommends this control be in place during the rig move and during drilling of the well. "Heavy Truck Traffic" signs may need to be posted after the well is drilled to help warn non-suspecting motorists on this stretch of the road.

The well pad shall be armored in the drainages at corner #2 and around corner #5 to prevent erosion of the pad by storm events.

The well pad shall be bermed to prevent fluids from leaving the pad into the adjacent drainages.

If the pits have sharp rocks in them a felt liner will be required to protect the synthetic pit liner.

Application for Permit to Drill Statement of Basis

6/14/2010

Utah Division of Oil, Gas and Mining

Page 2

Mark Jones
Onsite Evaluator

5/4/2010
Date / Time

Conditions of Approval / Application for Permit to Drill

Category	Condition
Pits	A synthetic liner with a minimum thickness of 12 mils shall be properly installed and maintained in the reserve pit. (A felt subliner may be required if sharp rocks are found while excavating the pits. Especially if the pit needs to be blasted.)
Surface	The well site shall be bermed to prevent fluids from leaving the pad.
Surface	Drainages adjacent to the proposed pad shall be diverted around the location.
Surface	The reserve pit shall be fenced upon completion of drilling operations.
Surface	The well pad shall be armored in the drainages at corner #2 and around corner #5 to prevent erosion of the pad by storm events.

WORKSHEET

APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 4/20/2010

API NO. ASSIGNED: 43039500030000

WELL NAME: Rough Canyon Federal 30-1

OPERATOR: WOLVERINE OPERATING COMPANY OF UTAH, LLC (N3035)

PHONE NUMBER: 435 896-1943

CONTACT: Charles Irons

PROPOSED LOCATION: NWNW 32 170S 010E

Permit Tech Review: ☒

SURFACE: 0288 FNL 0452 FWL

Engineering Review: ☐

BOTTOM: 1830 FSL 0810 FEL

Geology Review: ☒

COUNTY: SANPETE

LATITUDE: 39.29469

LONGITUDE: -111.83722

UTM SURF EASTINGS: 427803.00

NORTHINGS: 4349605.00

FIELD NAME: WILDCAT

LEASE TYPE: 1 - Federal

LEASE NUMBER: UTU-82536

PROPOSED PRODUCING FORMATION(S): NAVAJO

SURFACE OWNER: 3 - State

COALBED METHANE: NO

RECEIVED AND/OR REVIEWED:

- ☒ **PLAT**
- ☒ **Bond:** FEDERAL - BLM WYB000616
- ☐ **Potash**
- ☐ **Oil Shale 190-5**
- ☐ **Oil Shale 190-3**
- ☐ **Oil Shale 190-13**
- ☒ **Water Permit:** 63-3169
- ☒ **RDCC Review:** 2010-06-14 00:00:00.0
- ☐ **Fee Surface Agreement**
- ☐ **Intent to Commingle**

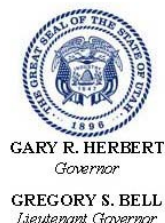
Commingle Approved

LOCATION AND SITING:

- ☐ **R649-2-3.**
- Unit:**
- ☐ **R649-3-2. General**
- ☐ **R649-3-3. Exception**
- ☒ **Drilling Unit**
- Board Cause No:** R649-3-11
- Effective Date:**
- Siting:**
- ☒ **R649-3-11. Directional Drill**

Comments: Presite Completed

Stipulations:
4 - Federal Approval - dmason
5 - Statement of Basis - bhll
15 - Directional - dmason
21 - RDCC - dmason
23 - Spacing - dmason



State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

Permit To Drill

Well Name: Rough Canyon Federal 30-1

API Well Number: 43039500030000

Lease Number: UTU-82536

Surface Owner: STATE

Approval Date: 6/14/2010

Issued to:

WOLVERINE OPERATING COMPANY OF UTAH, LLC, 1140 N. Centennial Park Dr., Richfield, UT 84701

Authority:

Pursuant to Utah Code Ann. §40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of R649-3-11. The expected producing formation or pool is the NAVAJO Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

Duration:

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

General:

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

Conditions of Approval:

State approval of this well does not supercede the required federal approval, which must be obtained prior to drilling.

In accordance with Utah Admin. R. 649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

This proposed well is located in an area for which drilling units (well spacing patterns) have not been established through an order of the Board of Oil, Gas and Mining (the "Board"). In order to avoid the possibility of waste or injury to correlative rights, the operator is requested, once the well has been drilled, completed, and has produced, to analyze geological and engineering data generated therefrom, as well as any similar data from surrounding areas if available. As soon as is practicable after completion of its analysis, and if the analysis suggests an area larger than the quarter-quarter section upon which the well is located is being drained, the operator is requested to seek an appropriate order from the Board establishing drilling and spacing units in conformance with such analysis by filing a Request for Agency Action with the Board.

The Application for Permit to Drill has been forwarded to the Resource Development Coordinating

Committee for review of this action. The operator will be required to comply with any applicable recommendations resulting from this review. (See attached)

Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis (copy attached).

Notification Requirements:

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

- Within 24 hours following the spudding of the well – contact Carol Daniels at 801-538-5284 (please leave a voicemail message if not available)

OR

submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website at <https://oilgas.ogm.utah.gov>

Reporting Requirements:

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) – due within 5 days of spudding the well
- Monthly Status Report (Form 9) – due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) – due prior to implementation
- Written Notice of Emergency Changes (Form 9) – due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) – due prior to implementation
- Report of Water Encountered (Form 7) – due within 30 days after completion
- Well Completion Report (Form 8) – due within 30 days after completion or plugging

Approved By:



Acting Associate Director, Oil & Gas

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

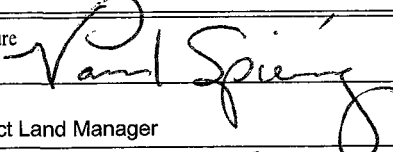
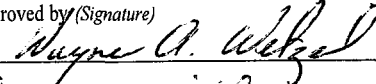
FORM APPROVED
OMB No. 1004-0137
Expires July 31, 2010

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. UTU-82536
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name N/A
2. Name of Operator Wolverine Operating Company of Utah, LLC		7. If Unit or CA Agreement, Name and No. N/A
3a. Address 1140 N Centennial Park Drive Richfield, Utah 84701		8. Lease Name and Well No. Rough Canyon Federal 30-1
3b. Phone No. (include area code) 435-896-1943		9. API Well No. 43-039-50003
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 288' FNL, 452' FWL Sec 32-T17S-R1E (being in NW4/NW4) At proposed prod. zone 1830' FSL, 810' FEL Sec 30-T17S-R1E (being in NE4/SE4)		10. Field and Pool, or Exploratory Exploratory
14. Distance in miles and direction from nearest town or post office* 5 miles North-Northeast of Fayette, Utah		11. Sec., T. R. M. or Blk. and Survey or Area Sec. 30, T17S, R1E, SLB&M
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 810 feet	16. No. of acres in lease 763.60	12. County or Parish Sanpete
17. Spacing Unit dedicated to this well 40 acres	18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. None	13. State UT
19. Proposed Depth 12,400' TVD	20. BLM/BIA Bond No. on file BLM WYB000616	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6171' GL	22. Approximate date work will start* 07/15/2010	23. Estimated duration 90 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

- Well plat certified by a registered surveyor.
- A Drilling Plan.
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification
- Such other site specific information and/or plans as may be required by the BLM.

25. Signature 	Name (Printed/Typed) Paul Spiering	Date 04/14/2010
Title District Land Manager		
Approved by (Signature) 	Name (Printed/Typed) Wayne A. Wetzel	Date 20 July 2010
Title Assoc. Field Manager	Office Richfield Field Office	

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

RECEIVED

JUL 26 2010

DIV. OF OIL, GAS & MINING

*(Instructions on page 2)

RECEIVED

APR 14 2010

Conditions of Approval Attached

Richfield BLM Field Office

Conditions of Approval (COAs)

Based on this environmental assessment, the subject ROW grant UTU-83172, mineral materials purchase contract, and the APD will be issued subject to regulations under 43 CFR 2800, 43 CFR 3600, 43 CFR 3100 and oil and gas onshore orders. The following mitigating stipulations that are either required by policy, law, or regulation or are needed to insure mitigation of associated surface disturbance activities. Part A applies to the ROW grant and the mineral materials purchase contract and Parts A and B apply to the APD.

A. Surface Use Conditions of Approval

1. The Holder shall secure all relevant Federal, state and local permits prior to beginning construction activities.
2. Issuance of ROW grant UTU-83172 to Wolverine Operating Company of Utah, LLC does not affect any rights to public highways that may have attached to the described access road segments identified as Sanpete County asserted roads, pursuant to RS-2477 (43 U.S.C. 932 repealed by the Federal Land Policy and Management Act of October 21, 1976).
3. Road construction, operation and maintenance will be in compliance with the terms and conditions of the subject grant, the American Association of State Highway and Transportation (AASHTO) safety standards, and will meet criteria for the Manual of Uniform Traffic Control Devices (MUTCD) manual for signs (regulatory, warning/caution, speed, delineators, and other roadway appurtenances, etc.).
4. The Holder shall clearly mark the exterior boundary of the ROW areas prior to beginning construction activities. The right-of-way width is variable (includes cut and fill and truck turn-out areas) as depicted sheets PP- 01 through PP-14 and Sheet 1B of the construction diagrams submitted with the ROW application (See Jones and DeMille Engineering, Inc. Drawings dated 03/29/2010, topographic map dated 03/30/2010, and revised Summary of Construction Sheet 1B dated 07/09/2010).
5. The Holder shall conduct all activities associated with the construction, operation, maintenance, and termination of the described access road within the authorized limits of the described ROW area, unless otherwise approved in writing by the Authorized Officer.
6. No turn-a-round areas are authorized outside the ROW areas. Use of existing roads will be required during all phases of construction, operation, maintenance and termination activities. For segments located away from existing roads/trails, travel will be restricted to within the granted ROW areas, unless prior approved in writing by the Authorized Officer.
7. The proposed grant shall be issued subject to valid prior existing rights such as existing county-maintained roads and includes other authorized rights-of-way that may be located adjacent to or which may be affected by the construction, operation, maintenance and termination of this described right-of-way.
8. Any existing facilities which may be damaged during operation, maintenance, or termination of this ROW shall be repaired or restored to the same condition as existed prior to the damage. Any costs for such damage or repair shall be the total responsibility of the Holder.
9. Gravel material to be used for the subject road surface shall be obtained from the authorized mineral materials site in the project area.

10. The Holder shall implement erosion control and re-vegetation measures to insure that the lands disturbed by construction and maintenance activities will be restored to a stable, productive, and aesthetically acceptable condition.

11. Surface disturbances that are created on public land as a result of construction, maintenance, operation, and termination activities, outside of the travel width of the subject access road, shall be reshaped and re-contoured, to approximate natural contours and conditions, to the extent practicable; evenly redistributing stockpiled topsoil over the re-contoured areas, the cut and fill slopes, and all other disturbed areas and seeded. The seed mixture specified below will be utilized. There will be no primary or secondary noxious weeds in the seed mixture. The seed shall be certified weed-free seed. The authorized Officer is to be notified a minimum of 15 days prior to seeding of the project.

<u>NAME</u>	<u>SEEDING RATE/ACRE</u>
Sandberg Bluegrass	1.0 lb Pure Live Seed
Luna Pubescent Wheatgrass	1.5 lb Pure Live Seed
Bozoisky Russian Wildrye	1.5 lbs Pure Live Seed
Magnar Great Basin Wildrye	1.5 lbs Pure Live Seed
Covar Sheep Fescue	1.5 lbs Pure Live Seed
Gooseberry Leaf Globemallow	0.5 lb Pure Live Seed
Yellow Sweetclover	0.5 lb Pure Live Seed
Delar Small Burnet	1.5 lbs Pure Live Seed
Richfield Firecracker Penstemon (P. eatonii)	0.5 lb Pure Live Seed
Palmer Penstemon (P. palmeri)	0.5 lb Pure Live Seed
Appar Lewis Flax	2.0 lbs Pure Live Seed
Common Sunflower	2.0 lbs Pure Live Seed
Wyoming Big Sagebrush	0.5 lb Pure Live Seed
Forage Kochia	<u>1.0 lb Pure Live Seed</u>
Total	16.0 lbs Pure Live Seed

During Road construction topsoil (6 inches or maximum available) will be stockpiled in a berm along the edge of the road for use in road reclamation. All of the seed should be mixed together and either broadcast seeded or drill seeded. If the area is broadcast seeded then this should be done by using a four-wheeler equipped with a seeder. Seeding rate should be 16 pounds per acre. After broadcast seeding, then the area should be dragged with a small harrow (used with four wheeler), which will cover the seed.

If the area is drill seeded then a small tractor equipped with a farm drill should be used. Seeding rate should be 8 pounds per acre.

All of the seeding should be done in mid to late Fall (October/November) to prevent premature sprouting and subsequent winter killing of the forb species, due to late summer/early Fall precipitation combined with warm soil temperatures.

The Holder shall have three growing seasons following issuance of the grant to establish an acceptable stand of one perennial plant per square foot. Failing this, the authorized Officer may accept whatever level of reclamation is achieved if a good faith attempt at reclamation has been demonstrated by the Holder.

12. The Holder shall be responsible for weed control within the limits of the described ROW areas. The Holder shall also be responsible for consultation and coordination with the Authorized Officer for acceptable weed control methods (within limits imposed in the grant stipulations). Equipment used to

construct the subject access road shall be washed to remove invasive weed seeds prior to entering the project area.

13. Heavy equipment, used to construct and rehabilitate the access road, shall be cleaned and/or sprayed (power washed) to remove any noxious or invasive weeds and seeds, prior to being moved to the project site. Any other equipment and vehicles, that have been used at other locations, where noxious weeds or seeds could have attached to the equipment, must also be sprayed and/or cleaned.

14. To reduce the emission of fugitive dust, routine watering and/or application of magnesium chloride shall be applied to the access road, as needed.

15. Drilling and construction activities are likely to occur during late summer or fall. Impacts to nesting bird species, therefore, are not anticipated. Big game species, however, will be protected by activity restriction between December 15th and May 15th.

16. The Holder shall be responsible for informing all persons associated with this project that they shall be subject to prosecution for knowingly disturbing historic or archaeological sites or for collecting artifacts. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the Holder, or any person working on their behalf, on federal land shall be immediately reported to the Authorized Officer. The Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The Holder shall be responsible for the cost of the evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the Holder.

17. The ROW and mineral material site areas shall be kept free of trash, litter, discarded materials, and debris that are on site or generated as a result of the Holder's activities. The areas shall be maintained a sanitary condition during all construction, operation, maintenance and termination activities. Waste materials shall be removed and disposed of promptly at an appropriate waste disposal site. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, pipe, oil, oil drums, grease, petroleum products, ashes, concrete, construction materials, and equipment. Debris/waste shall not be buried or burned without Holder obtaining prior written permission from the Authorized Officer.

18. The Holder shall locate, handle, and store gas, diesel fuel, oil, lubricants, and other petroleum products in such a manner as to prevent them from entering into and contaminating soils on the public land. Should petroleum spills occur within the described area as a result of construction, maintenance, and termination activities, the Holder shall be responsible for clean-up of any spills in accordance with Federal and State regulation and associated costs.

19. Fire suppression equipment must be available to suppress any wildfires caused by construction or related activities. In the event of a wildfire, the BLM Richfield Field Office (RFO) and the Richfield Interagency Fire Center (RIFC) shall be notified. The RFO phone number is (435) 896-1515 and the RIFC Dispatch phone number is (435) 896-8404. Suppression of any wildfires started as a result of construction, operation, maintenance and termination activities shall be the liability of the Holder.

20. If at any time hereafter, the Holder wishes to reconstruct, remodel, or relocate any portion of the ROW areas or change, modify, or add improvements or facilities thereon, the **prior** written approval of the Authorized Officer must be obtained.

21. Once construction has been completed of the above described long-term access road ROW and associated components, the temporary interim staging areas and turn outs will be re-contoured and the associated surface disturbances reclaimed, as prescribed by the BLM.
22. When the authorized use is no longer needed, and prior to abandonment of the facilities, the Holder or authorized representative shall meet with the Authorized Officer to arrange a joint inspection of the ROW. The inspection shall be held to agree on an acceptable abandonment and rehabilitation plan, which may include but not limited to removal of structures, recontouring and reseeding the areas. The Authorized Officer must approve the plan in writing **prior** to the Holder commencing any abandonment and/or rehabilitation activities.
23. The Contract for the Sale of Mineral Materials on public land will be subject to all pre-existing rights on the land covered by the contract, the Purchaser's mining and reclamation plans, the sale terms and stipulations, and the applicable federal and state regulations.
24. The existing access road to the gravel pit will be used; limited maintenance to its existing width and existing road bed material, and a slight modification as to the direction of entrance onto the pit access road to allow large truck access will be allowed.
25. The Purchaser, under the Contract for the Sale of Mineral Materials, will contact BLM at least 48 hours prior to the start of gravel removal operations from the mineral material site. Contact Kathleen Anders at (435)-896-1545.
26. During the life of the project, and until the mineral material site is released from liability for reclamation, the Purchaser will inspect the site at least annually for noxious weeds. If invasive noxious weeds are found, the Purchaser will treat the weeds to eliminate further reproduction, and treatment will continue until the weeds have been eradicated. If noxious weeds are found, the BLM will be notified by the Purchaser of their presence.
27. If the access road to the mineral material site becomes rutted, widened or otherwise deteriorates through use related to the mineral material extraction, or if the access road does not have a post-mining use, the road will be reclaimed. Reclamation will include re-contouring the tracks, pulling in any berm, ripping the surface, and seeding.
28. The Authorized Officer will be contacted at least 48 hours prior to commencing any reclamation work at the mineral material site. Final reclamation, including re-vegetation of the site, will be deemed complete and satisfactory when approved by the Authorized Officer.
29. The Purchaser, under the Contract for the Sale of Mineral Materials, will submit an annual production report to the BLM Richfield Field Office on or before January 31 of each year for production during the previous year. The first annual report will be due on or before January 31, 2011, for production during 2010, and subsequent reports will be due by that date of each year.
30. The Authorized Officer or his delegated representative will be allowed, at any time, to examine the records of the Purchaser, under the Contract for the Sale of Mineral Materials, to determine the quantity of mineral material removed and to inspect the material site for compliance with federal regulations and provisions of the contract.
31. The terms and conditions of the Contract for the Sale of Mineral Materials will apply to the Purchaser and any employees, independent contractors and/or subcontractors of the Purchaser. The Purchaser will be required to diligently supervise any employee, independent contractor, and/or subcontractor who

operate at the subject material site. Any violation of the terms and conditions of the Contract for the Sale of Mineral Materials by the Purchaser, employees, or contractor will subject the Purchaser to penalties.

32. All permanent structures, including pumping units, constructed or installed will be painted a flat, non-reflective color, as described on page 40 of the Gold Book (Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development, 4th Edition 2006). Prior to painting permanent structures, the operator will submit a Sundry Notice for approval of a color proposed by the applicant. Permanent structures are defined as being on location for six months or longer. Facilities that must conform to a color standard required Occupational Safety and Health Act (OSHA) may not conform to the Gold Book standards.

33. Applicant committed measures outlined in the Surface Use Plan of Operations submitted with the Application for Permit to Drill are considered part of the Conditions of Approval.

34. A certified blaster shall be on site and perform the operations on an as-need basis. All applicable regulations including those of the Bureau of Alcohol, Tobacco and Firearms shall be followed for the use of explosive materials. No explosives shall be stored on site.

35. All safety measures shall be compliant with OSHA requirements.

Access Road ROW Monitoring Requirements:

Monitoring will be conducted in accordance with 43 CFR 2805.10(3), which states "Each grant that BLM issues for 20 or more years will contain a provision requiring periodic review at the end of the twentieth year and subsequently at 10-year intervals. BLM may change the terms and conditions of the grant as a result of these reviews in accordance with 43 CFR 2805.15(e) of this subpart". The operation and maintenance of the ROW area will be inspected and monitored to assure compliance with the grant terms and conditions for the protection of the resources, the environment and the public health, safety and welfare. If needed, the Applicant will take corrective action as required by the Authorized Officer.

B. Well Downhole Condition of Approval

I. Please Note:

All lease and/or unit operations will be conducted in such a manner that full compliance is made with applicable laws, regulations (43 CFR parts 3100 and 3160), lease terms, Onshore Oil and Gas Orders, Notice to Lessee's, and this approved plan of operation.

A copy of the approved application and these conditions shall be maintained on location during all construction and drilling operations. Deviation from the approved plan without prior approval is not allowed.

The operator is fully responsible for the actions of his subcontractors.

Operators have the responsibility to assure that activities authorized by this permit are conducted in a manner that complies with other applicable Federal, State, and local laws and regulations.

Approval of this application does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which will entitle the applicant to conduct operations thereon.

This Application for Permit to Drill (APD) shall be valid for two years from the date of approval, provided the lease does not expire. If activities have not commenced by the end of the two-year period, the APD shall be returned to the operator without prejudice. Should the operator still desire to drill the well, a new APD must be submitted to this office. Upon written request by the operator, a one-time **two year** extension to this time period may be granted by the Authorized Officer (AO).

Failure to comply with the provisions of this permit (including applicable regulations, stipulations, and/or approval conditions) will be considered a violation subject to the enforcement provisions of 43 CFR Subpart 3163.

If fill materials are needed to maintain roads or well sites, proper permits must be obtained from the appropriate surface owner. On BLM administered lands, the use of materials shall conform with 43 CFR §3610.2-3.

II. Required Notifications:

The operator and contractor shall contact the BLM Richfield Field Office at least 48 hours prior to commencement of access and site construction or reclamation activities. (Contact: Stan Andersen - (435) 896-1532).

The operator shall contact the BLM Price Field Office at least 24 hours prior to the following operations (Contact: Marvin Hendricks - (435) 636-3661, FAX (435) 636-3657):

- spudding (including dry hole digger or rig hole rigs);
- running and cementing all casing strings;
- pressure testing of BOPE or any casing string.
- pressure integrity test (mud weight equivalency test) of each casing shoe.

In the case of newly drilled dry holes, and in any emergency situation, after hours notification and authorization may be obtained by contacting the following individuals, in the order listed:

Marvin Hendricks (435) 650-9136 (Cell)
Petroleum Engineer (435) 637-1850 (Home)
BLM Price Field Office (435) 636-3661 (Office)
marvin_hendricks@blm.gov

Al McKee (801) 828-7498 (Cell)
Petroleum Engineer (801) 572-6911 (Home)
BLM Utah State Office

Walton Willis (435) 650-9140 (Cell)
Petroleum Eng. Technician (435) 636-3662 (Office)
BLM Price Field Office
walton_willis@blm.gov

Fire Activities: BLM Richfield Field Office Cornell Christensen 435 896-1500 and Richfield Interagency Fire Center (RIFC) 435 896-8404.

III. Conditions of Approval: Note – New or revised COAs are in bold print.

A. Drilling Plan - The drilling plan of the Application for Permit to Drill will be supplemented as follows:

1. Onshore Order No. 2, *Drilling Operations*, requires that all formations containing usable quality water (less than 10,000 ppm) be protected via cement. If encountered while drilling, usable quality water will require protection by bring the cement at least $\pm 100'$ above the usable quality water zone.
2. **During drilling operations, drilling reports (and mud reports) shall be emailed daily to the Price Field Office petroleum engineer and petroleum engineering technician. Within 30 days of finishing drilling and completion operations, a chronological daily operations history shall be submitted to this office.**
3. The authorized officer shall be notified when operations are 500 feet above or 3 days before (whichever is earlier) drilling the first formation (Twin Creek) that may contain H_2S .
4. **If there is a possibility that H_2S gas may be present, the drilling rig shall be equipped with H_2S detection and monitoring equipment that activates visible and audible alarms when concentrations of 10 and 15 ppm, respectively, are exceeded.**
5. A copy of the Drilling Operations Plan (DOP) shall be available during operations at the wellsite beginning 500 feet above or 3 days before (whichever is earlier) drilling the first formation (Twin Creek) that may contain H_2S .
6. A copy of the Public Protection Plan (PPP) shall be available onsite at all times during drilling and completion operations.
7. The H_2S DOP and PPP shall be reviewed by the operator on an annual basis and a copy of any necessary revisions shall be submitted to the authorized officer upon request. The DOP and/or PPP will also be reviewed during any operator changes. The BLM will be notified when this review has been completed.
8. If unanticipated H_2S in excess of 100 ppm in the gas stream is encountered, the operator shall immediately ensure control of the well, suspend drilling operations (unless detrimental to well control), and obtain materials and safety equipment to bring the operations into compliance with the applicable provisions of Onshore Order No. 6, *Hydrogen Sulfide Operations*. In addition, the operator shall notify the authorized officer of the event and the mitigating steps that have or are being taken, as soon as possible, but no later than the next business day. If said notifications are subsequent to actual resumption of drilling operations, the operator shall notify the authorized officer of the date that drilling was actually resumed.

Should H_2S in excess of 100 ppm in the gas stream be encountered, the following requirements (9 -17) from Onshore Order No. 6 shall apply:

9. **Equipment to indicate wind direction shall be installed at prominent locations and be visible at all times during drilling operations (OO#6.III.C.3.d.i).**
10. Operational danger or caution sign(s) shall be displayed along all controlled access to the site. The sign shall be painted a high visibility red, black and white or yellow with black lettering. The sign shall be placed a minimum of 200 feet but no more than 500 feet from the location and at a location which allows vehicles to turn around (OO#6.III.C.3.d.ii, iii, iv & v).
11. As an alternative road is not practical to build, a clearly marked footpath flagged to a safe area is acceptable (OO#6.III.C.2.a).
12. Metallurgical properties of all tubular goods and well control equipment shall conform to NACE STD #MR-0175-90 or equivalent (OO#6.III.C.4.c).
13. A rotating head and mud gas separator shall be utilized while drilling all formations of concern (OO#6.III.C.4.a.ix).
14. A mud degasser shall be in place and operable during the drilling of all formations of concern (OO#6.III.C.4.b.ii).
15. A remote controlled-choke shall be utilized while drilling all formations of concern. (OO#6.III.C.4.a.viii)
16. **A flare system shall be designed and installed to safely gather and burn H₂S bearing gas, and be located not less than 150 feet from the wellbore. The system shall be equipped with a suitable and safe ignition source. In situations involving non-combustible gas, a supplemental fuel source shall be used to maintain ignition. (OO#6.III.C.4.a.ii, iii, iv & v).**
17. If production is established, a description of the H₂S detection system utilized at the production facilities will be provided to determine the concentration of any H₂S released (OO#6.III.B.2.h).
18. All required notifications, including any requests for approval or hydrogen sulfide issues, shall be made to: Marvin Hendricks at (435) 636-3661 (office); or (435) 650-9136 (cell). Please leave as detailed as message as necessary.
19. **One digital copy of all logs (in PDF or TIFF format), and one hard copy of core descriptions, core analyses, drill stem tests, well-test data, geologic summaries, sample descriptions, and all other surveys or data obtained and compiled during the drilling and/or completion operations shall be submitted to the BLM, Price Field Office, 125 South 600 West, Price, Utah, 84501.**
20. Operations authorized by this permit shall not be suspended for more than 30 days without prior approval of the Authorized Officer (AO). All conditions of approval shall be applicable during any operations conducted with a replacement/completion rig.

21. Gas produced from this well may not be vented or flared beyond an initial authorized test period of 30 days or 50 MMCF following its completion, whichever comes first, without the prior written approval of the authorized officer. Should gas be vented or flared without approval beyond the authorized test period, the operator may be directed to shut-in the well until the gas can be captured or approval to continue venting or flaring as uneconomic is granted and the operator shall be required to compensate the lessor for the portion of the gas vented or flared without approval which is determined to have been avoidably lost. In order to continue venting or flaring beyond the 30 day period, the operator shall be required to demonstrate that either the volume or physical properties of the gas make it uneconomical to recover and must receive authorization to continue venting or flaring from the authorized officer.
22. Section 102 (b) (3) of the Federal Oil and Gas Royalty Management Act of 1982, as implemented by the applicable provisions of the operating regulations at Title 43 CFR 3162.4-1 (c), requires that "not later than the 5th business day after any well begins production on which royalty is due anywhere on a lease site or allocated to a lease site, or resumes production in the case of a well which has been off production for more than 90 days, the operator shall notify the authorized officer by letter or sundry notice, Form 3160-5, or orally to be followed by a letter or sundry notice, of the date on which such production has begun or resumed."

The date on which production is begun or resumed will be construed for oil wells as the date on which liquid hydrocarbons are first sold or shipped from a temporary storage facility, such as a test tank, and for which a run ticket is required to be generated or, the date on which liquid hydrocarbons are first produced into a permanent storage facility, whichever occurs first; and, for gas wells as the date on which associated liquid hydrocarbons are first sold or shipped from a temporary storage facility, such as a test tank, and for which a run ticket is required to be generated or, the date on which gas is first measured through permanent metering facilities, whichever occurs first.

Should Wolverine fail to comply with the above requirement in the manner and time allowed, you shall be liable for a civil penalty of up to \$10,000 per violation for each day such violation continues, not to exceed a maximum of 20 days. See Section 109 (c) (3) of the Federal Oil and Gas Royalty Management Act of 1982 and the implementing regulations at Title 43 CFR 3162.4-1 (c) and 3163.2 (e) (2).

SURFACE USE PLAN OF OPERATIONS

For inclusion with Application for Permit to Drill

Name of Operator: Wolverine Operating Company of Utah, LLC
Address: 1140 N. Centennial Park Drive
Richfield, Utah 84701

Surface Well Location: **Rough Canyon Federal 30-1**
288' FNL & 452' FWL, (being in NW4/NW4)
Section 32, T17S, R1E, SLB&M
Sanpete County, Utah

Bottom Hole Location: 1830' FSL & 810' FEL, (being in NE4/SE4)
Section 30, T17S, R1E, SLB&M
Sanpete County, Utah

Access Road Location: Existing two-track road leads from Highway SR 28 Easterly across the S2SE Section 1-T18S-R1W and across the W2W2 Section 6-T18S-R1E to the mouth of Rough Canyon in the SWSW Section 31-T17S-R1E. A new road is proposed to be built Northeasterly through Rough Canyon to the East line of Section 31. A Title V right-of-way application is being submitted to the Richfield BLM office covering both above existing road and new road. The portion of the lease road continuing into Section 32 will be constructed under terms of an Easement from State of Utah School and Institutional Trust Lands Administration (SITLA) and the well pad will be constructed under terms of a Special Use Lease from same.

Fee surface use is not required for construction and drilling of the referenced well and access road. State surface use is required for construction of the well pad and that portion of the access road that is situated in Section 32-T17S-R1E. Federal surface use for access is being requested with the associated Title V Right-of-Way application through the BLM – Richfield Field Office.

The dirt contractor will be provided with an approved copy of the surface use plan of operations and conditions of approval before initiating construction.

Existing Roads:

The vicinity map in the APD drawing packet shows the proposed well location east of Highway SR28 in the Sanpitch Mountain range. The closest town is Fayette, Utah (well location being 5 miles North-northeast of Fayette).

Driving directions: From Gunnison, Utah, travel north on SR 28, under Utah Department of Transportation (UDOT) maintenance approximately 8.5 miles to a driveway on the East side connecting the highway to a two-track road. Proceed through the gate Easterly, thence Northerly a distance of about 1.42 miles on said two-track to its terminus near the mouth of Rough Canyon. Continue Northeasterly up the narrow canyon on a to-be-constructed new road a distance of about 1.38 miles to the Section 31 east line and SITLA boundary. Continue into Section 32 on SITLA land a distance of 700+ feet to the Rough Canyon Federal 30-1 well pad.

Access Roads to be Constructed and Reconstructed:

The surface condition of the existing two-track road is not adequate to bear rig-related traffic and will require improvement. The width of the traveled way will be increased from about 8 feet+/- to 12 feet, and 8 foot wide vehicle turnouts will be constructed at strategic points to allow trucks to pass. See drawing sheets TS-01 (Type 2 Typical Section) and TS-02 in the Right-of-Way application for detail on existing road improvements. Details on

areas of construction are shown on sheets PP-01 through PP-04 of the Right-of-Way application.

From the mouth of Rough Canyon to the BLM-SITLA land boundary, a new road will need to be constructed, following the meander of the bottom of the wash, a distance of 7,295.32 linear feet (1.38 miles). Due to the tight turns and confinement of the canyon walls the traveled way of this road will need to be a minimum of 14 feet; with extra width of up to 40.2 feet on curves. The roadbed will be fortified with untreated base course and granular borrow taken from the existing community gravel pit referenced below under *Construction Materials*. See drawing sheets TS-01 (Type 1 Typical Section) and TS-02 for detail on new road construction. Details on areas of construction are shown on sheets PP-04 through PP-14 of the Right-of-Way application. Best management practices will be used in all stages of design and construction.

The continuation of the new road into Section 32 (SITLA land) to the well pad will be constructed under authority of an easement from SITLA. Details of construction for that portion of the lease road are included in the APD packet submitted herewith. The well pad will be constructed under authority of a Special Use Lease from SITLA (Application #1680) and details of pad layout and construction design are also included in the APD packet.

Total length of the improved portion of the road across BLM land is 1.42 miles. Total length of new constructed access road is 1.52 miles (being 1.38 miles across BLM land and .14 mile across SITLA land).

Road construction, operation and maintenance will be in compliance with the terms and conditions of the BLM and SITLA Conditions of Approval, the American Association of State Highway and Transportation (AASHTO) safety standards, and will meet criteria for the Manual of Uniform Traffic Control Devices (MUTCD) manual for signs.

Energy dissipating structures and silt fences will be utilized to minimize erosion that may result from the road construction.

The Operator intends to install a cattle guard in addition to the gate near where the existing two-track road enters the highway. The cattle guard will be installed in the existing fence opening and the gate will be reinstalled to the side.

All existing roads and the new road will be maintained and kept in good repair during all phases of operation. Vehicle operators will obey posted speed restrictions and observe safe speeds commensurate with road and weather conditions.

Equipment to be used in construction will consist of conventional heavy equipment, including bulldozers, scrapers, excavators, backhoes, compactors and water trucks. In the event rock blasting is necessary in excavation a certified blaster will be called in to perform the operation on an as-needed basis. All applicable regulations, including those of the Bureau of Alcohol, Tobacco and Firearms, will be followed for the use of explosive materials. No explosives will be stored on site. Boulders that are exposed by excavation, that cannot be broken up and used as aggregate, will be buried in the right-of-way, unless otherwise requested by the Authorized Officer.

Location of Existing Wells within a one-mile radius :

There are no wells (oil, gas, water, injection or disposal, producing or being drilled) within a one-mile radius of the proposed location.

Location of Existing and/or Proposed Facilities if Well is Productive:

(a) *On well pad* – A temporary testing facility may be constructed on this location in the event drilling is successful, consisting of treater/separator, tanks and related components. The facility would be surrounded by a dike of sufficient capacity to contain the storage capacity of the largest tank. All loading lines and valves would be located inside the berm surrounding the tank battery.

(b) *Off well pad* – It is not possible to know whether an off-well pad production facility would be necessary in the event of a discovery. In the event such a facility is needed a site closer to Highway SR 28 would potentially be used for collection, treating and load-out. The Operator will submit this information for approval at such time as production requirements are known.

Location and Type of Water Supply (Rivers, Creeks, Lakes, Ponds and Wells):

The Operator intends to lease water rights from a private water right owner: water right number 63-3169. This will be done by temporary change order through the Utah Division of Water Rights office in Richfield, Utah. Water will be drafted from the Sevier River at a load-out point tentatively located in the NE4 of Section 2-18S-1W, subject to

change, depending on the level of the reservoir at the time of need. Should additional water sources be pursued they will be properly permitted through the State of Utah – Division of Water Rights. The BLM will be notified of any changes in water supply.

Construction Materials:

Natural earth materials used for fill on the well pad will be taken from cuts made in construction of the pad. Imported granular borrow from an approved source will be applied to the surface of the well pad and access road where deemed necessary. The roadbed will be fortified with granular borrow taken from an existing community gravel pit that is located nearby. An application for mineral materials sale for that purpose is being submitted concurrently with this APD. If additional materials are needed they will be taken from an approved source.

Methods for Handling Waste Disposal:

The reserve pit will be used for the disposal of waste mud and drill cuttings. All borehole fluids and salts will be contained in the reserve pit. It will be located in cut material and will be lined with 12 mil minimum thickness plastic nylon reinforced liner material. The liner will overlay a felt liner pad only if sharp rock edges result from excavation. The pit liner will overlap the top of the pit walls and be covered with dirt and/or rocks to hold it in place. No trash, scrap pipe, etc. that could puncture the liner will be disposed of in the pit. Pit walls will be sloped no greater than 2:1. A minimum 2-foot freeboard will be maintained in the pit at all times during the drilling and completion operations. After evaporation of fluids, back-fill of sub-soil and compaction to prevent settling will occur within 90 days of cessation of pit use. If necessary, any remaining fluids will be pumped out of the pit and transported off site.

No chemicals subject to reporting under SARA Title III (hazardous materials) in an amount greater than 10,000 pounds will be used, produced, stored, transported, or disposed of in association with the drilling, testing, or completion of the well. Furthermore, no extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, will be used, produced, stored, transported, or disposed of in association with the drilling, testing, or completion of the well.

Wastewater will not be discharged on the surface at this site and the drilling of the well will not require a wastewater management plan.

All rubbish and debris will be kept in containers on the well site, and will be hauled to an approved disposal site upon completion of drilling operations and as needed during such operations. There will be no chemical disposal of any type.

Self-contained, portable toilets will be used for human waste, and the waste will be disposed at an approved human waste disposal facility. Sanitation will comply with local and state regulations.

Ancillary Facilities:

No ancillary facilities are anticipated at this time.

Well Site Layout:

Pad Location and Layout Drawings in the APD drawing packet show the proposed well site layout including location of the reserve pit and access road onto the pad, turnaround areas, parking areas, living facilities, soil material stockpiles, and the orientation of the rig with respect to the pad and other facilities. Cross section sheets in said packet show cuts and fills required for construction, and their relationship to topography. As detailed above under Methods for Handling Waste Disposal, the reserve pit will be lined and appropriate measures as described above will be taken to prevent leakage. The pit will be fenced on three sides during drilling operations and then the fourth side will be immediately fenced when the rig is moved off location.

The pad and road designs will be consistent with SITLA, UDOGM and BLM requirements.

A pre-construction meeting with responsible company representative and contractors will be conducted at the project site prior to commencement of surface-disturbing activities. The pad and road will be construction-staked (centerline and exterior boundaries) prior to this meeting.

All surface disturbing activities will be supervised by a qualified, responsible company representative who is aware of the terms and conditions of approval from the BLM under the Title V Right-of-Way, and APD, and terms and

conditions of approval from SITLA under the Easement and Special Use Lease.

All cut and fill slopes will be such that stability can be maintained for the life of the activity.

The stockpiled topsoil (first 6 inches or maximum available) will be isolated in a berm by the well pad. Topsoil will be stockpiled for reclamation in such a way as to prevent soil loss and contamination.

Water spraying may be implemented if necessary to minimize dust.

Plans for Reclamation of the Surface:

Interim Reclamation: In the event production is achieved the Operator will perform interim reclamation of the site. Interim reclamation will consist of reclamation of the reserve pit and reclamation of that portion of the well pad not needed for ongoing operations. After evaporation of fluids, the pit will be back-filled with sub-soil and/or rock and compacted to prevent settling. The pit area will be surfaced with granular borrow to render it a usable part of the well pad. All portions of the pad no longer necessary for well workover, testing or treating will be contoured to match the surrounding terrain to the best extent practicable. Stockpiled topsoil will be evenly distributed thereon, scarified and seeded as per Conditions of Approval.

Final Reclamation: In the event the well is a dry hole, or at such time that all production ceases and the well has been plugged and abandoned, the Operator will perform final reclamation of the site. Final reclamation will consist of reclamation of the reserve pit, the well pad and the access road as it crosses SITLA and BLM land. In the event the right-of-way across BLM land is assignable to SITLA, and such assignment is approved, reclamation of the BLM right-of-way may be partial, according to terms and conditions of said right-of-way. The Operator will comply with all Conditions of Approval for reclamation of the right-of-way.

Any accumulation of hydrocarbons in the reserve pit will be removed and recovered for sale unless it is determined by the authorized officer to be waste oil. All waste oil will be disposed of properly at approved facilities. The portion of the reserve pit liner that is exposed above the cuttings will be cut and removed from the site and disposed in an authorized landfill. After evaporation of fluids, the pit will be back-filled with subsoil and/or rock from the reserve pit stockpile and compacted to prevent settling.

Unless otherwise directed, road base material used in the construction of the access road and pad will be removed from the site and disposed in a proper manner. If the reserve pit has adequate capacity, then some or all of the road base material may be buried in the reserve pit, provided that the granular is not contaminated by oil or other waste materials. The access road will be contoured using an excavator or similar equipment, rather than simply ripping the surface.

Subsoil from the portions of the well pad that are fill will be pulled up onto the pad in order to reestablish the original slope to the best extent possible. The portions that are cut will be filled to match the original slope of the land to the best extent possible. Topsoil from the stockpile will then be evenly distributed over the entire impacted area. The entire impacted area will be scarified and seeded in late fall, using the seed mix and methods described in BLM and SITLA conditions of approval. Final reclamation will take place within 180 days after plugging date of the last well on site, depending on weather, season and other extenuating circumstances.

During the life of the project and until the site is released from liability for reclamation, the project will be inspected at least annually for noxious weeds. If invasive noxious weeds are found, the weeds will be treated to eliminate further reproduction, and treatment shall continue until the weeds have been eradicated. If noxious weeds are found, BLM and SITLA will be notified of their occurrence.

See Additional Detail on Plans for Reclamation of the Surface on Addendum to Surface Use Plan of Operations, attached hereto.

Surface Ownership:

The surface of the proposed well site and the Section 32 portion (.14 mile) of the access road is State owned and is administered by the State of Utah School and Institutional Trust Lands Administration (SITLA). The access road across Section 31-T17S-R1E, Section 6-T18S-R1E and Section 1-T18S-R1W is federally owned and is administered by the Bureau of Land Management, United States Department of Interior.

Other Information:

The topsoil (6 inches, or maximum amount present) will be stripped and removed from the well pad and stockpiled for future reclamation of the site. This topsoil shall be stockpiled separately from any other excavated materials. It will be reserved for reclamation and not utilized for any other purpose. If it is to be stockpiled for more than one year it will be seeded in the fall with a seed mix approved by the authorized officer.

Heavy equipment used to construct and rehabilitate the well pad and access road will be cleaned and/or sprayed to remove any noxious or invasive weeds and seeds, prior to entering to the project site. Any other equipment and vehicles that have been used in other locations where noxious weeds or seeds could have attached to the equipment will also be sprayed and/or cleaned.

Due to the narrow canyon, adequate truck turnouts are not possible on the new-built portion of the road. While smaller vehicles would be able to pass on the traveled surface, larger trucks would not. Flagmen with radio communication will be stationed at the upper and lower ends of Rough Canyon at all times when rig traffic is present, to prevent opposing traffic from meeting in this confined area.

In the event of a flash flood, traffic on the new road in Rough Canyon would be shut down until the flow of water ceased and the road surface could be returned to a passable condition.

All equipment and vehicles will be confined to the access road and well pad.

Western Land Services will conduct a Class III archeological survey and will submit same under separate cover to the appropriate agencies.

Western Land Services will conduct a T&E survey and prepare an EA for the proposed well site. The T&E report and EA will be submitted under separate cover to the appropriate agencies.

No stream alteration or drainage crossings are involved that require additional State or Federal approval.

All permanent structures, including pumping units, constructed or installed will be painted a flat, non-reflective color as described on page 40 of the Gold Book (Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development, 4th Edition 2006). Permanent structures are defined as being on location for six months or longer. Facilities required to comply with Occupational Safety and Health Act (OSHA) shall be excluded.

Fire suppression equipment will be available to suppress any wildfires caused by construction or related activities. In the event of a wildfire the Sanpete County Fire Warden will be notified, (435) 835-2117.

Operator Certification

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I, or someone under my direct supervision, have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Executed this 14th day of April, 2010.

Signature:



Position Title:

Paul Spiering
District Land Manager

Address:

Wolverine Operating Company of Utah, LLC
1140 N. Centennial Park Drive
Richfield, Utah 84701

Telephone:

435-896-1943

Field representative (if not above signatory)

Address:

Charlie Irons, Senior Landman
1140 N Centennial Park Drive
Richfield, Utah 84701

Telephone:

435-896-1943

Agents not directly employed by the operator must submit a letter from the operator authorizing that agent to act or file this application on their behalf.

Wolverine Operating Company of Utah, LLC
Rough Canyon Federal 30-1
Addendum to Surface Use Plan of Operations

Additional Detail on: Plans for Reclamation of the Surface

I. Reclamation Objectives:

The objective of interim reclamation is to restore vegetative cover and a portion of the landform sufficient to maintain healthy, biologically active topsoil; control erosion; and minimize habitat, visual, and forage loss during the life of the well or facilities, to the best extent practicable.

The long-term objective of final reclamation is to return the land to a condition approximating that which existed prior to disturbance, to the best extent practicable. This includes restoration of the landform and natural vegetative community, hydrologic systems, visual resources, and wildlife habitats. To ensure that the long-term objective will be reached through human and natural processes, actions will be taken to ensure standards are met for site stability, visual quality, hydrological functioning, and vegetative productivity.

II. Reclamation Performance Standards

The following reclamation performance standards will be met:

Interim Reclamation – Includes disturbed areas that may be redisturbed during operations and will be redisturbed at final reclamation to achieve restoration of the original landform and a natural vegetative community.

Will be judged successful when the BLM authorized officer determines that...

- Disturbed areas not needed for active, long-term production operations or vehicle travel have been recontoured, protected from erosion, and revegetated with a self-sustaining, native (or as otherwise approved) plant community sufficient to minimize visual impacts, provide forage, stabilize soils, and impede the invasion of noxious, invasive, and non-native weeds.

Final Reclamation – Includes disturbed areas where the original landform and a natural vegetative community have been restored.

Will be judged successful when the BLM authorized officer determines that...

- The original landform has been restored to the best extent practicable for all disturbed areas including well pads, production facilities, roads, pipelines, and utility corridors.
- General: A self-sustaining, native (or otherwise approved) plant community is established on the site, with a density sufficient to control erosion and invasion by non-native plants and to reestablish wildlife habitat or forage production. At a minimum, the established plant community will consist of species included in the seed mix and/or desirable species occurring in the surrounding natural vegetation.
- Specific: No single species will account for more than [30]% total vegetative composition unless it is evident at higher levels in the adjacent landscape. Permanent vegetative cover will be determined successful when the basal cover of desirable perennial species is at least [80]% of the basal cover on adjacent or nearby undisturbed areas where vegetation is in a healthy condition; or [80]% of the potential basal cover as defined in the National Resource Conservation Service Ecological Site(s) for the area. Plants must be resilient as evidenced by well-developed root systems and flowers. [Shrubs, will be well established and in a "young" age class at a minimum (therefore, not comprised mainly of seedlings that may not survive until the following year).]
- In agricultural areas, irrigation systems and soil conditions are reestablished in such a way as to ensure successful cultivation and harvesting of crops.

- Erosion features are equal to or less than surrounding area and erosion control is sufficient so that water naturally infiltrates into the soil and gulying, headcutting, slumping, and deep or excessive rills (greater than 3 inches) are not observed.
- The site is free of State- or county-listed noxious weeds, oil field debris and equipment, and contaminated soil. Invasive and non-native weeds are controlled.

III. Reclamation Actions

During initial well pad, production facility, road, pipeline, and utility corridor construction and prior to completion of the final well on the well pad, pre-interim reclamation stormwater management actions will be taken to ensure disturbed areas are quickly stabilized to control surface water flow and to protect both the disturbed and adjacent areas from erosion and siltation. This may involve construction and maintenance of temporary silt ponds, silt fences, berms, ditches, and mulching.

When the last well on the pad has been completed, some portions of the well location will undergo interim reclamation and some portions of the well pad will usually undergo final reclamation. Most well locations will have limited areas of bare ground, such as a small area around production facilities or the surface of a rocked road. Other areas will have interim reclamation where workover rigs and fracturing tanks may need a level area to set up in the future. Some areas will undergo final reclamation where portions of the well pad will no longer be needed for production operations and can be recontoured to restore the original landform.

The following minimum reclamation actions will be taken to ensure that the reclamation objectives and standards are met. It may be necessary to take additional reclamation actions beyond the minimum in order to achieve the Reclamation Standards.

Reclamation - General

Procedure:

- The BLM will be notified 24 hours prior to commencement of any reclamation operations.

Housekeeping:

- Immediately upon well completion, the well location and surrounding areas(s) will be cleared of, and maintained free of, all debris, materials, trash, and equipment not required for production.
- No hazardous substances, trash, or litter will be buried or placed in pits. Upon well completion, any hydrocarbons in the pit will be remediated or removed.

Vegetation Clearing:

- Vegetation removal and the degree of surface disturbance will be minimized wherever possible.
- During vegetation clearing activities, trees and woody vegetation removed from the well pad and access road will be moved aside prior to any soil disturbing activities. Care will be taken to avoid mixing soil with the trees and woody vegetation. Trees left for wood gathering will be cut [twelve inches or less from the ground], delimbed, and the trunks, six (6) inches or more in diameter will be removed and placed either by the uphill side of the access road, or moved to the end of the road, or to a road junction for easy access for wood gatherers and to reduce vehicle traffic on the well pad. Trees with a trunk diameter less than six (6) inches and woody vegetation will be used to trap sediment, slow runoff, or scattered on reclaimed areas to stabilize slopes, control erosion, and improve visual resources.]

Topsoil Management:

- Operations will disturb the minimum amount of surface area necessary to conduct safe and efficient operations. When possible, equipment will be stored and operated on top of vegetated ground to minimize surface disturbance.
- Where possible, in areas to be heavily disturbed, the top [eight (8)] inches of soil material, will be stripped and stockpiled around the perimeter of the well location and along the perimeter of the access road to control run-on and run-off, and to make redistribution of topsoil more efficient during interim reclamation.

Stockpiled topsoil may include vegetative material. Topsoil will be clearly segregated and stored separately from subsoils.

- Earthwork for interim and final reclamation will be completed within 6 months of well completion or plugging unless a delay is approved in writing by the BLM authorized officer.
- Salvaging and spreading topsoil will not be performed when the ground or topsoil is frozen or too wet to adequately support construction equipment. If such equipment creates ruts in excess of four (4) inches deep, the soil will be deemed too wet.
- No major depressions will be left that would trap water and cause ponding unless the purpose is to trap runoff and sediment.

Seeding:

- Seedbed Preparation. Initial seedbed preparation will consist of recontouring to the appropriate interim or final reclamation standard. All compacted areas to be seeded will be ripped to a minimum depth of 18 inches, where practicable, with a minimum furrow spacing of 2 feet, followed by recontouring the surface and then evenly spreading the stockpiled topsoil. Prior to seeding, the seedbed will be scarified and left with a rough surface.
- If broadcast seeding is to be used and is delayed, final seedbed preparation will consist of contour cultivating to a depth of 4 to 6 inches within 24 hours prior to seeding, dozer tracking, or other imprinting in order to loosen up the soil and create seed germination micro-sites.
- Seed Application. Seeding will be conducted no more than 24 hours following completion of final seedbed preparation. A certified weed-free seed mix designed by BLM to meet reclamation standards will be used.
- The application rate is based on 45 pure live seeds (PLS) per square foot, drill-seeded to a depth of 0.25 to 0.5 inch, which is the method that will be used where feasible. [However, shrub species will be seeded during the winter on the ground surface or preferably on top of snow.] In areas that will not be drill-seeded, the seed mix will be broadcast-seeded at twice the application rate described and covered no more than 0.25 inch deep with a harrow, drag bar, or roller or will be broadcast-seeded into imprints, such as fresh dozer cleat marks.
- No seeding will occur from May 15 to September 15. Fall seeding is preferred and will be conducted after September 15 and prior to ground freezing. Shrub species will be seeded separately and will be seeded during the winter. Spring seeding will be conducted after the frost leaves the ground and no later than May 15.

Erosion Control and Mulching:

- Mulch, silt fencing, waddles, hay bales, and other erosion control devices will be used on areas at risk of soil movement from wind and water erosion.
- Mulch will be used if necessary to control erosion, create vegetation micro-sites, and retain soil moisture and may include hay, small-grain straw, wood fiber, live mulch, cotton, jute, or synthetic netting. Mulch will be free from mold, fungi, and certified free of noxious or invasive weed seeds.
- If straw mulch is used, it will contain fibers long enough to facilitate crimping and provide the greatest cover.

Pit Closure:

- Reserve pits will be closed and backfilled within six months of release of the rig, weather permitting. Immediately upon well completion, any hydrocarbons or trash in the pit will be removed. Pits will be allowed to dry, be pumped dry, or solidified in-situ prior to backfilling.
- Following completion activities, pit liners will be removed down to the solids level and disposed of at an approved landfill, or treated to prevent their reemergence to the surface and interference with long-term successful revegetation. If it was necessary to line the pit with a synthetic liner, the pit will not be trenched (cut) or filled (squeezed) while containing fluids. When dry, the pit will be backfilled with a minimum of 5 feet of soil material. In relatively flat areas the pit area will be slightly mounded above the surrounding grade to allow for settling and to promote surface drainage away from the backfilled pit.

Management of Invasive, Noxious, and Non-Native Species:

- All reclamation equipment will be cleaned prior to use to reduce the potential for introduction of noxious weeds or other undesirable non-native species.
- An intensive weed monitoring and control program will be implemented prior to site preparation for planting and will continue until interim or final reclamation is approved by the authorized officer.
- Monitoring will be conducted at least annually during the growing season to determine the presence of any invasive, noxious, and non-native species. Invasive, noxious, and non-native species that have been identified during monitoring will be promptly treated and controlled. A Pesticide Use Proposal (PUP) will be submitted to the BLM for approval prior to the use of herbicides.

Interim Reclamation Procedures - Additional

Recontouring:

- Interim reclamation actions will be completed no later than 6 months from when the final well on the location has been completed, weather permitting. The portions of the cleared well site not needed for active operational and safety purposes will be recontoured to the original contour if feasible, or if not feasible, to an interim contour that blends with the surrounding topography as much as possible. Sufficient semi-level area will remain for setup of a workover rig and to park equipment. In some cases, rig anchors may need to be pulled and reset after recontouring to allow for maximum interim reclamation.
- If the well is a producer, the interim cut and fill slopes prior to re-seeding will not be steeper than a 3:1 ratio, unless the adjacent native topography is steeper. Note: Constructed slopes may be much steeper during drilling, but will be recontoured to the above ratios during interim reclamation.
- Roads and well production equipment, such as tanks, treaters, separators, vents, electrical boxes, and equipment associated with pipeline operation, will be placed on location so as to permit maximum interim reclamation of disturbed areas. If equipment is found to interfere with the proper interim reclamation of disturbed areas, the equipment will be moved so proper recontouring and revegetation can occur.

Application of Topsoil & Revegetation:

- Topsoil will be evenly respread and aggressively revegetated over the entire disturbed area not needed for all-weather operations including road cuts & fills and to within a few feet of the production facilities, unless an all-weather, surfaced, access route or small "teardrop" turnaround is needed on the well pad.

Visual Resources Mitigation:

- Trees, if present, and tall vegetation will be left along the edges of the pads whenever feasible to provide screening.
- To help mitigate the contrast of recontoured slopes, reclamation will include measures to feather cleared lines of vegetation and to save and redistribute cleared trees, debris, and rock over recontoured cut and fill slopes.
- To reduce the view of production facilities from visibility corridors and private residences, facilities will not be placed in visually exposed locations (such as ridgelines and hilltops) unless such locations are necessary for operations.
- Production facilities will be clustered and placed away from cut slopes and fill slopes to allow the maximum recontouring of the cut and fill slopes.
- All long-term above ground structures will be painted (from the BLM "Supplemental Environmental Colors" chart) to blend with the natural color of the late summer landscape background.

Final Reclamation Procedures - Additional

- Final reclamation actions will be completed within 6 months of well plugging, weather permitting.
- All disturbed areas, including roads, pipelines, pads, production facilities, and interim reclaimed areas will be recontoured to the contour existing prior to initial construction or a contour that blends indistinguishably with the surrounding landscape. Salvaged topsoil will be spread evenly over the entire disturbed site to ensure successful revegetation. To help mitigate the contrast of recontoured slopes, reclamation will include measures to feather cleared lines of vegetation and to save and redistribute cleared trees, woody debris, and large rocks over recontoured cut and fill slopes.

- Water breaks and terracing will only be installed when absolutely necessary to prevent erosion of fill material. Water breaks and terracing are not permanent features and will be removed and reseeded when the rest of the site is successfully revegetated and stabilized.
- If necessary to ensure timely revegetation, the pad will be fenced to BLM standards to exclude livestock grazing for the first two growing seasons or until seeded species become firmly established, whichever comes later. Fencing will meet standards found on page 18 of the Gold Book, 4th Edition, or will be fenced with operational electric fencing.
- Final abandonment of pipelines and flowlines will involve flushing and properly disposing of any fluids in the lines. All surface lines and any lines that are buried close to the surface that may become exposed in the foreseeable future due to water or wind erosion, soil movement, or anticipated subsequent use, must be removed. Deeply buried lines may remain in place unless otherwise directed by the authorized officer.

Reclamation Monitoring and Final Abandonment Approval

- Reclaimed areas will be monitored annually. Actions will be taken to ensure that reclamation standards are met as quickly as reasonably practical and are maintained during the life of the permit.
- If specifically requested by the authorized officer reclamation monitoring will be documented in an annual reclamation report submitted to the authorized officer by the operator. The report will document compliance with all aspects of the reclamation objectives and standards, identify whether the reclamation objectives and standards are likely to be achieved in the near future without additional actions, and identify actions that have been or will be taken to meet the objectives and standards. If specifically requested monitoring and reporting will continue annually until interim or final reclamation is approved. Any time 30% or more of a reclaimed area is redisturbed, monitoring will be reinitiated.
- The authorized officer will be informed when reclamation has been completed, appears to be successful, and the site is ready for final inspection.

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 6

ENTITY ACTION FORM

Operator: Wolverine Operating Company of Utah, LLC Operator Account Number: N 1655
Address: One Riverfront Plaza, 55 Campau NW
city Grand Rapids, MI
state MI zip 49503 Phone Number: (616) 458-1150

Well 1

API Number	Well Name		QQ	Sec	Twp	Rng	County
4303950003	Rough Canyon Federal 30-1		NWNW	32	17S	1E	Sanpete
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
A	99999	17764	8/29/2010		9/7/10		
Comments: <i>NAVA</i> <i>BHL = See 30 NESE</i> CONFIDENTIAL							

Well 2

API Number	Well Name		QQ	Sec	Twp	Rng	County
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
Comments:							

Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
Comments:							

ACTION CODES:

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (Explain in 'comments' section)

Helene Bardolph

Name (Please Print)

Signature

Engineering Assistant

8/31/2010

Title

Date

RECEIVED

AUG 31 2010

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9																														
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-82536																														
		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:																														
		7. UNIT or CA AGREEMENT NAME:																														
1. TYPE OF WELL Oil Well		8. WELL NAME and NUMBER: Rough Canyon Federal 30-1																														
2. NAME OF OPERATOR: WOLVERINE OPERATING COMPANY OF UTAH, LLC		9. API NUMBER: 43039500030000																														
3. ADDRESS OF OPERATOR: One Riverfront Plaza 55 Campau NW, Grand Rapids, MI, 49503		9. FIELD and POOL or WILDCAT: WILDCAT																														
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0288 FNL 0452 FWL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWNW Section: 32 Township: 17.0S Range: 01.0E Meridian: S		COUNTY: SANPETE																														
		STATE: UTAH																														
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA																																
TYPE OF SUBMISSION <input type="checkbox"/> NOTICE OF INTENT Approximate date work will start: <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: <input checked="" type="checkbox"/> SPUD REPORT Date of Spud: 8/28/2010 <input type="checkbox"/> DRILLING REPORT Report Date:	TYPE OF ACTION <table style="width: 100%; border: none;"> <tr> <td><input type="checkbox"/> ACIDIZE</td> <td><input type="checkbox"/> ALTER CASING</td> <td><input type="checkbox"/> CASING REPAIR</td> </tr> <tr> <td><input type="checkbox"/> CHANGE TO PREVIOUS PLANS</td> <td><input type="checkbox"/> CHANGE TUBING</td> <td><input type="checkbox"/> CHANGE WELL NAME</td> </tr> <tr> <td><input type="checkbox"/> CHANGE WELL STATUS</td> <td><input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS</td> <td><input type="checkbox"/> CONVERT WELL TYPE</td> </tr> <tr> <td><input type="checkbox"/> DEEPEN</td> <td><input type="checkbox"/> FRACTURE TREAT</td> <td><input type="checkbox"/> NEW CONSTRUCTION</td> </tr> <tr> <td><input type="checkbox"/> OPERATOR CHANGE</td> <td><input type="checkbox"/> PLUG AND ABANDON</td> <td><input type="checkbox"/> PLUG BACK</td> </tr> <tr> <td><input type="checkbox"/> PRODUCTION START OR RESUME</td> <td><input type="checkbox"/> RECLAMATION OF WELL SITE</td> <td><input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION</td> </tr> <tr> <td><input type="checkbox"/> REPERFORATE CURRENT FORMATION</td> <td><input type="checkbox"/> SIDETRACK TO REPAIR WELL</td> <td><input type="checkbox"/> TEMPORARY ABANDON</td> </tr> <tr> <td><input type="checkbox"/> TUBING REPAIR</td> <td><input type="checkbox"/> VENT OR FLARE</td> <td><input type="checkbox"/> WATER DISPOSAL</td> </tr> <tr> <td><input type="checkbox"/> WATER SHUTOFF</td> <td><input type="checkbox"/> SI TA STATUS EXTENSION</td> <td><input type="checkbox"/> APD EXTENSION</td> </tr> <tr> <td><input type="checkbox"/> WILDCAT WELL DETERMINATION</td> <td><input type="checkbox"/> OTHER</td> <td>OTHER: <input style="width: 100px;" type="text"/></td> </tr> </table>		<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>
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12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. This well was spud at 5:00 PM on 8/28/2010 using the Boart-Longyear Rig# LK 12.																																
Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY September 13, 2010																																
NAME (PLEASE PRINT) Paul Spiering		PHONE NUMBER 435 896-1943																														
SIGNATURE N/A		TITLE District Land Manager																														
		DATE 9/10/2010																														

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<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CASING REPAIR	
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 10/14/2010	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	
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	OTHER: <input style="width: 100px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. Please see attached report for details.		
Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY October 14, 2010		
NAME (PLEASE PRINT) Helene Bardolph		PHONE NUMBER 616 458-1150
SIGNATURE N/A		TITLE Engineering Administrative Assistant
		DATE 10/14/2010

August/September 2010 Drilling Update

Wolverine Operating Company of Utah, LLC
Rough Canyon Federal 30-1
API #43039500030000
NWNW, Section 32, T17S, R1E
Sevier County, Utah

28 - 29 August 2010

Depth 0' GL, no casing set. MIRURT. MW – none, Vis. – none, FL – N/A. Surveys: none.

30 August 2010

Depth 1' GL, no casing set. MIRURT, spud at 1700 hrs, 8/29/10 w/ 38" bit. MW – 8.8, Vis. – 53, FL – not controlled. Surveys: none.

31 August 2010

Depth 15' GL, no casing set. Drill to 15' w/ 38" bit. MW – 8.8, Vis. – 53, FL – not controlled. Surveys: none.

1 September 2010

Depth 44' GL, no casing set. Drill to 44' GL. MW – 8.8, Vis. – 53, FL – not controlled. Surveys: none.

2 September 2010

Depth 69' GL, no casing set. Drill to 69' GL. MW – 8.8, Vis. – 53, FL – not controlled. Surveys: ½ degree @ 55'.

3 September 2010

Depth 75' GL, 32" x ⅜" wall @ 75' GL. Drill to 76', POOH, run 32" casing to 75' GL, run tremmie pipe, pump 25 sx Neat mixed at 15.6 ppg, WOC, run tremmie pipe, tag cmt at 68' GL, mix cement. MW – 8.8, Vis. – 53, FL – not controlled. Surveys: none.

4 September 2010

Depth 79' GL, 32" x ⅜" wall @ 75' GL. Pump 125 sx Neat mixed at 15.3 pg, WOC, run tremmie pipe, tag cmt at 51', mix & pump 50 sx Neat mixed at 15.3 ppg, filled to GL, did not fall back, WOC, PU 26" bit & BHA, RU rotary table, hook up flow lines, GIH, tag cmt @ 68' GL, drill cmt from 68' to 75', drill to 79', POOH to change top sub. MW – 8.8, Vis. – 60, FL – not controlled. Surveys: none.

5 September 2010

Depth 79' GL, 32" x ⅜" wall @ 75' GL. POOH, add DC's, GIH, drill to 133', POOH, PU DC's, drill to 170'. MW – 8.7, Vis. – 60, FL – not controlled. Surveys: none.

6 September 2010

Depth 298' GL, 32" x ⅜" wall @ 75' GL. Drill to 250' GL, C&C, survey, drill to 290', survey, switch to reverse circulation, drill to 298' GL. MW – 9.3, Vis. – 46, FL – 8. Surveys: 1 degree @ 110', 1 degree @ 220' & 1 degree @ 250'.

7 September 2010

Depth 390' GL, 32" x ⅜" wall @ 75' GL. Drill to 330, survey, drill to 390, attempt survey, tool separated from wire line, POOH, remove survey tool, GIH. MW – 9.3, Vis. – 43, FL – 9. Surveys: 1 degree @ 10', 1.25 degrees @ 300'.

8 September 2010

Depth 494' GL, 32" x $\frac{3}{8}$ " wall @ 75' GL. GIH, survey, C&C, drill to 430, survey, drill to 470, C&C, survey, drill to 494'. MW – 9, Vis. – 42, FL – 9. Surveys: 0.25 degrees @ 100', 0.25 degrees @ 200', 0.75 degrees @ 390' & 0.25 degrees @ 440'.

9 September 2010

Depth 585' GL, 32" x $\frac{3}{8}$ " wall @ 75' GL. Drill to 510', survey, drill to 550', losing mud @ 100 bbl/hr, survey, drill to 585'. MW – 8.7, Vis. – 40, FL – 14. Surveys: 1 degree @ 480' & 1.5 degrees @ 520'.

10 September 2010

Depth 671' GL, 32" x $\frac{3}{8}$ " wall @ 75' GL. Drill to 590', losing 20 bbl/ hr mud, C&C, survey, drill to 630', C&C, survey, drill to 670', started losing returns at 648, lost all returns at 670', survey, drill to 671, still losing all returns, POOH. MW – 8.7, Vis. – 45, FL – 14. Surveys: 1 degree @ 560', 1 degree @ 600' & 1½ degrees @ 640'.

11 September 2010

Depth 705' GL, 32" x $\frac{3}{8}$ " wall @ 75' GL. POOH, LD some DC's, GIH, pump LCM slugs, drill to 674', losing 50 bbl/hr mud, drill to 678', losing 50 bbl/hr, drill to 705' lost all returns, mix mud & LCM. MW – 8.7, Vis. – 51, FL – 14. Surveys: none.

12 September 2010

Depth 752' GL, 32" x $\frac{3}{8}$ " wall @ 75' GL. Mix & pump LCM slugs, drill to 714', losing 25 bbl/hr mud, C&C, drill to 734', losing 50 bbl/hr mud, C&C, survey, drill to 746', losing 75 bbl/hr mud, lost total returns at 746', mix LCM slugs, lost 400 bbl mud, drill to 750', losing 90 bbl/hr mud, lost all returns at 750', lost 300 bbl mud, drill to 751', losing 125 bbl/hr mud, lost all returns at 750', lost 350 bbl mud, drill to 752', losing 125 bbl/hr, mis LCM slugs. MW – 8.7, Vis. – 51, FL – 14. Surveys: 2¼ degrees @ 700'.

13 September 2010

Depth 762' GL, 32" x $\frac{3}{8}$ " wall @ 75' GL. Mix & pump LCM slugs, drill to 754', losing 125 bbl/hr mud, survey, lost returns, TFNB, establish partial circulation, drill to 762', losing 75 bbl/hr . MW – 8.9, Vis. – 55, FL – 14. Surveys: 1¾ degrees @ 720'.

14 September 2010

Depth 803' GL, 32" x $\frac{3}{8}$ " wall @ 75' GL. Drill to 775', losing 75 bbl/hr mud, survey, drill to 785', losing 125 bbl/hr mud, drill to 803', lost returns, mix & pump slugs, attempt to drill blind, discontinued due to high torque, mix & pump LCM slugs. MW – 8.6, Vis. – 40, FL – not controlled. Surveys: 1 degree @ 740'

15 September 2010

Depth 856' GL, 32" x $\frac{3}{8}$ " wall @ 75' GL. Mix & pump mud + LCM slugs, PU 20' off bottom, switch to conventional circulation, drill to 856 w/ no returns, losing 75 bbl/hr mud. MW – 8.8, Vis. – 70, FL – NC. Surveys: none.

16 September 2010

Depth 916' GL, 32" x $\frac{3}{8}$ " wall @ 75' GL. Drill to 916', losing 100 bbl/hr mud. MW – 8.8, Vis. – 70, FL – NC. Surveys: none.

17 September 2010

Depth 971' GL, 32" x $\frac{3}{8}$ " wall @ 75' GL. Drill to 935, C&C, survey, drill to 971'. MW – 8.6, Vis. – 68, FL – NC. Surveys: 1¾ degrees @ 880'.

18 September 2010

Depth 1047' GL, 32" x $\frac{3}{8}$ " wall @ 75' GL. Drill blind to 1015, survey, drill blind to 1047'. MW – 8.9, Vis. – 68, FL – NC. Surveys: 1 degrees @ 950'.

19 September 2010

Depth 1140' GL, 32" x 3/8" wall @ 75' GL. Drill & survey, circulate conventional, losing 125 bbl/hr mud. MW – 8.6, Vis. – 93, FL – NC. Surveys: 2 degrees @ 1020' & 2° @ 1060'.

20 September 2010

Depth 1228' GL, 32" x 3/8" wall @ 75' GL. Drill & survey, circulate conventional, losing 125 bbl/hr mud. MW – 8.6, Vis. – 84, FL – NC. Surveys: 2 1/2° @ 1100' & 2° @ 1140'.

21 September 2010

Depth 1235' GL, 32" x 3/8" wall @ 75' GL. Drill to 1235', C&C, found fluid level in hole, POOH to 975', switch to flooded reverse circulating method, wash back to 1215', POOH. MW – 8.6, Vis. – 62, FL – NC. Surveys: 1 3/4° @ 1180'.

22 September 2010

Depth 1280' GL, 32" x 3/8" wall @ 75' GL. PU new bit, GIH, drill. MW – 8.9, Vis. – 44, FL – NC. Surveys: none.

23 September 2010

Depth 1371' GL, 32" x 3/8" wall @ 75' GL. Drill & survey, circulate w/ flooded reverse method.. MW – 8.9, Vis. – 43, FL – NC. Surveys: 1 1/2° @ 1220', 2 1/2° @ 1260', 2° @ 1280' & 1 1/4° @ 1300'.

24 September 2010

Depth 1425' GL, 32" x 3/8" wall @ 75' GL. Drill & survey to TD at 1425', C&C, POOH, LDDP& BHA, clean up tools, tongs & wrenches. MW – 9.1, Vis. – 45, FL – NC. Surveys: 2° @ 1360'.

25 September 2010

Depth 1425' GL, 32" x 3/8" wall @ 75' GL. Prep to run casing, cut off 32" csg, set landing plate, run 22" x 1/2" wall casing to 840'. MW – 8.8, Vis. – 45, FL – NC. Surveys: none.

26 September 2010

Depth 1425' GL, 32" x 3/8" wall @ 75' GL. Run casing to 900', wait on crane, RU 250 ton crane, run casing to 1421', RD crane. MW – 8.8, Vis. – 45, FL – NC. Surveys: none.

27 September 2010

Depth 1425' GL, 22" x 1/2" wall @ 1421' GL. Fluid level at 778', pump to clear 1 3/8" tremmie pipe, (1) mix & pump 44 sx (1.17 cf/sk) Cl. "G" cement + 4% CaCl₂ mixed @ 15.4 ppg, POOH, WOC, tag cmt @ 1375', (2) mix & pump 44 sx (1.17 cf/sk) Cl. "G" cement + 4% CaCl₂ mixed @ 15.4 ppg, POOH, WOC, tag cmt @ 1325', (3) mix & pump 44 sx (1.17 cf/sk) Cl. "G" cement + 4% CaCl₂ mixed @ 15.4 ppg, POOH, WOC, tag cmt @ 1265', POOH w/ tremmie pipe to clear plugged pipe, GIH w/ tremmie pipe, tag cmt @ 1263', MW – 8.8, Vis. – 45, FL – NC. Surveys: none.

28 September 2010

Depth 1425' GL, 22" x 1/2" wall @ 1421' GL.

(4) mix & pump 44 sx (1.17 cf/sk) Cl. "G" cement + 4% CaCl₂ mixed @ 15.4 ppg, POOH, WOC, tag cmt @ 1175', (5) mix & pump 44 sx (1.17 cf/sk) Cl. "G" cement + 4% CaCl₂ mixed @ 15.4 ppg, POOH, WOC, tag cmt @ 1095', (6) mix & pump 275 sx (1.17 cf/sk) Cl. "G" cement + 3% CaCl₂ mixed @ 15.5 ppg, POOH, WOC, tag cmt @ 760', (7) mix & pump 325 sx (1.17 cf/sk) Cl. "G" cement + 2% CaCl₂ mixed @ 15.3 ppg, POOH, WOC, tag cmt @ 480', (8) mix & pump 44 sx (1.17 cf/sk) Cl. "G" cement + 2% CaCl₂ mixed @ 15.3 ppg, 2

MW – 8.8, Vis. – 45, FL – NC. Surveys: none.

29 September 2010

Depth 1371' GL, 22" x ½" wall @ 1421' GL.

(8 continued) Tag cement at 472', (9) mix & pump 44 sx (1.17 cf/sk) Cl. "G" cement + 4% CaCl₂ mixed @ 15.4 ppg, POOH, WOC, tag cmt @ 470', (10) mix & pump 325 sx (1.17 cf/sk) Cl. "G" cement + 3% CaCl₂ mixed @ 15.4 ppg, POOH, WOC, tag cmt @ 330', (11) mix & pump 165 sx (1.17 cf/sk) Cl. "G" cement + 3% CaCl₂ mixed @ 15.5 ppg, POOH, WOC, tag cmt @ 185', (12) mix & pump 325 sx (1.17 cf/sk) Cl. "G" cement + 3% CaCl₂ mixed @ 15.3 ppg, POOH, WOC, tag cmt @ 35', (13) mix & pump 65 sx (1.17 cf/sk) Cl. "G" cement + 3% CaCl₂ mixed @ 15.3 ppg, circulate to surface, cement standing at surface,

WOC, RDRT, MW – 8.8, Vis. – 45, FL – NC. Surveys: none.

30 September 2010

Depth 1425' GL, 22" x ½" wall @ 1421' GL. RDRT, PU air hammer, drill mouse hole for big rig, RDMO Boart Longyear LK-12 rig. MW – 8.8, Vis. – 45, FL – NC. Surveys: none.

Carol Daniels - Rough Canyon Federal 30-1 Update *TINS ROIE S-32 43-039-50003*

From: "William Donovan"
To: "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope " , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels, Carol" , "De la Torre, Juan C" , "Dennis" , "Denton, Derek" , "Dieste, Bobby" , "Doucet, Dustin" , "Dustin Dunning" , "Foreman, Ron" , "George Zamantakis " , "Hall, Denise" , "Hammell, Hank" , "Harry Melnikoff" , "Hendricks, Marvin" , "Hutcinson, Clayton" , "Jeff Ainge" , "Jim Barry" , "Jones, Mark" , "Kulow, Kyle" , "Kyle Cox" , "LaDee Roundy" , "Larimore, Mark" , "Lewis, John" , "Martin Pete" , "Matt Harmon" , "McCoy, Charlene" , "McCoy, Tim" , "O'Connell, David" , "Perry, Bud (Smith Bits)" , "Pickup, Marc" , "Rees, John M" , "Revert, Scott" , "Robinson, Darin" , "Ryan Thomas" , "Shaun Burns" , "Shawn Moulton" , "Shelton, Shorty" , "Smuin, Troy" , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Winkler, Matt" , "Zimmerman, Bill"
Date: 10/30/2010 2:03 PM
Subject: Rough Canyon Federal 30-1 Update

10/30/2010 1:42 PM

Drilling at 2,807', ROP 4 FPH

Notice new e-mail address for rig

Bill Donovan
Wolverine Operating Company of Utah, LLC
Rough Canyon Federal 30-1
AFE 224 API 43-039-50003-00-00
Rig (970) 361-3276
boart@drillmail.net
Cell (720) 351-7470
donovan@petroleum-eng.com

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NOV 01 2010

DIV. OF OIL, GAS & MINING

Carol Daniels - Rough Canyon Federal 30-1 Update *TIPS ROLE 5-32 43-039-5 0003*

From: "Wolverine Exploration Rig"
To: "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,
"Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,
Carol" , "De la Torre, Juan C" , "Dennis" , "Denton, Derek" , "Dieste, Bobby" , "Doucet,
Dustin" , "Dustin Dunning" , "Foreman, Ron" , "George Zamantakis" , "Hall, Denise" ,
"Hammell, Hank" , "Harry Melnikoff" , "Hendricks, Marvin" , "Hutcinson, Clayton" , "Jim
Barry" , "Jones, Mark" , "Kulow, Kyle" , "Kyle Cox" , "LaDee Roundy" , "Larimore, Mark" ,
"Lewis, John" , "Martin Pete" , "Matt Harmon" , "McCoy, Charlene" , "McCoy, Tim" ,
"O'Connell, David" , "Perry, Bud (Smith Bits)" , "Pickup, Marc" , "Rees, John M" , "Revert,
Scott" , "Robinson, Darin" , "Ryan Thomas" , "Shaun Burns" , "Shawn Moulton" , "Shelton,
Shorty" , "Smuin, Troy" , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" ,
"Winkler, Matt" , "Zimmerman, Bill"
Date: 10/29/2010 5:22 PM
Subject: Rough Canyon Federal 30-1 Update

10/29/2010 5:19 PM

Drilling at 2,734', ROP 4 FPH

Bill Donovan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rough Canyon Federal 30-1, AFE 224
Rig (970) 361-3276
Cell (720) 351-7470
boart@drillmail.net

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NOV 01 2010

DIV. OF OIL, GAS & MINING

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
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<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> ALTER CASING	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CASING REPAIR	
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 10/31/2010	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	
	<input type="checkbox"/> CHANGE TUBING	
	<input type="checkbox"/> CHANGE WELL STATUS	
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	
	<input type="checkbox"/> DEEPEN	
	<input type="checkbox"/> FRACTURE TREAT	
	<input type="checkbox"/> OPERATOR CHANGE	
	<input type="checkbox"/> PLUG AND ABANDON	
	<input type="checkbox"/> PRODUCTION START OR RESUME	
	<input type="checkbox"/> RECLAMATION OF WELL SITE	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> VENT OR FLARE	
	<input type="checkbox"/> WATER SHUTOFF	
	<input type="checkbox"/> SI TA STATUS EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	
	<input type="checkbox"/> OTHER	
	OTHER: <input style="width: 100px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. Please see attached report for drilling details		
Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY 11/18/2010		
NAME (PLEASE PRINT) Helene Bardolph		PHONE NUMBER 616 458-1150
SIGNATURE N/A		TITLE Engineering Administrative Assistant
		DATE 11/18/2010

Subject: Wolverine Operating Company of Utah, LLC
Rough Canyon Federal 30-1
NW¹/₄ NW¹/₄ Sec 32-T17S-R1E surface location
NE¹/₄ SE¹/₄ Sec 30-T17S-R1E BHL
Sanpete County, Utah

1 October 2010

Depth 1425' GL, 22" x ½" wall @ 1421' GL. RDMO Boart Longyear rig LK-12, prepare pad for Boart Longyear rig LM-700. MW – nr, Vis. – nr, FL – nr. Surveys: none.

2 October 2010

Depth 1425' GL, 22" x ½" wall @ 1421' GL. Prepare pad, start mobilizing Boart Longyear rig LM-700. MW – nr, Vis. – nr, FL – NC. Surveys: none.

3 October 2010

Depth 1425' GL, 22" x ½" wall @ 1421' GL. Mobilizing Boart Longyear rig LM-700. MW – nr, Vis. – nr, FL – NC. Surveys: none.

4 October 2010

Depth 1425' GL, 22" x ½" wall @ 1421' GL. Mobilizing Boart Longyear rig LM-700. MW – nr, Vis. – nr, FL – NC. Surveys: none.

5 October 2010 – 11 October 2010

Depth 1425' GL, 22" x ½" wall @ 1421' GL. MIRURT Boart-Longyear rig LM-700. MW – nr, Vis. – nr, FL – nr. Surveys: none.

12 October 2010

Depth 1425' GL, 22" x ½" wall @ 1421' GL. Finalize rig up, PU BHA & drill pipe. MW – nr, Vis. – nr, FL – nr. Surveys: none.

13 October 2010

Depth 1453' GL, 22" x ½" wall @ 1421' GL. PU drill pipe, C&C, drill cement 1439-48, drill. MW – 8.8, Vis. – 45, FL – no control. Surveys: none.

14 October 2010

Depth 1586' GL, 22" x ½" wall @ 1421' GL. Drilling. MW – 8.9, Vis. – 42, FL – 6.8. Surveys: none.

15 October 2010

Depth 1720' GL, 22" x ½" wall @ 1421' GL. Drill & survey. MW – 9.0, Vis. – 48, FL – 6.6. Surveys: 3° @ 1525' & 3° @ 1581'.

16 October 2010

Depth 1720' GL, 22" x ½" wall @ 1421' GL. Drill & survey. MW – 8.9, Vis. – 51, FL – 6.8. Surveys: 4° @ 1660', 3¼° @ 1691' & 4° @ 1721'.

17 October 2010

Depth 1864' GL, 22" x ½" wall @ 1421' GL. Drill & survey. MW – 8.8, Vis. – 53, FL – 8.2. Surveys: 4° @ 1755' & 3½° @ 1791'.

18 October 2010

Depth 1938' GL, 22" x ½" wall @ 1421' GL. Drill & survey. MW – 8.7, Vis. – 47, FL – 8. Surveys: 3¾° @ 1821' & 3¼° @ 1850'.

19 October 2010

Depth 2020' GL, 22" x ½" wall @ 1421' GL. Drill & survey, run gyro survey, drill, trip for new bit. MW – 8.7, Vis. – 55, FL – 8.8. Surveys: 3¾° @ 1960'.

20 October 2010

Depth 2040' GL, 22" x 1/2" wall @ 1421' GL. TFNB, change roller reamers, drill. MW – 8.7, Vis. – 51, FL – 6.6. Surveys: none.

21 October 2010

Depth 2201' GL, 22" x 1/2" wall @ 1421' GL. Drill & survey. MW – 8.9, Vis. – 53, FL – 8.8. Surveys: 3 3/4° @ 2046 & 3 3/4° @ 2116.

22 October 2010

Depth 2345' GL, 22" x 1/2" wall @ 1421' GL. Drill & survey. MW – 8.9, Vis. – 53, FL – 10. Surveys: 4° @ 2150, 4° @ 2216 & 4 3/4° @ 2280.

23 October 2010

Depth 2509' GL, 22" x 1/2" wall @ 1421' GL. Drill & survey. MW – 8.9, Vis. – 50, FL – 11. Surveys: 2 1/4° @ 2320' & 4 3/4° @ 2385'.

24 October 2010

Depth 2620' GL, 22" x 1/2" wall @ 1421' GL. Drill & survey. MW – 8.9, Vis. – 50, FL – 10.4. Surveys: 6° @ 2450' & 4 1/2° @ 2519'.

25 October 2010

Depth 2629' GL, 22" x 1/2" wall @ 1421' GL. Drill to 2626, C&C, TFNB, drill. MW – 8.9, Vis. – 51, FL – 8.6. Surveys: none.

26 October 2010

Depth 2698' GL, 22" x 1/2" wall @ 1421' GL. Drill & survey. MW – 8.8, Vis. – 47, FL – 11. Surveys: 6° @ 2580.

27 October 2010

Depth 2700' GL, 22" x 1/2" wall @ 1421' GL. Drill & survey, TFNB. MW – 8.7, Vis. – 38, FL – 15.6. Surveys: 5 3/4° @ 2665.

28 October 2010

Depth 2700' GL, 22" x 1/2" wall @ 1421' GL. TIH w/ mill, ream bottom of hole, POOH, PU bit, GIH, ream 2691 to 2694. MW – 8.8, Vis. – 47, FL – 15.6. Surveys: none.

29 October 2010

Depth 2702' GL, 22" x 1/2" wall @ 1421' GL. Ream 2694-2700, TFNB, drill. MW – 8.6, Vis. – 58, FL – 16.4. Surveys: none.

30 October 2010

Depth 2780' GL, 22" x 1/2" wall @ 1421' GL. Drill. MW – 8.7, Vis. – 59, FL – 7. Surveys: none.

31 October 2010

Depth 2850' GL, 22" x 1/2" wall @ 1421' GL. Drill & survey. MW – 8.8, Vis. – 50, FL – 14.4. Surveys: 6° @ 2770'.

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Form 3160-5
(April 2004)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

FORM APPROVED
OMB No. 1004-0137
Expires: March 31, 2007

5. Lease Serial No.
UTU-852536

6. If Indian, Allottee or Tribe Name
N/A

7. If Unit or CA/Agreement, Name and/or No.
N/A

8. Well Name and No.
Rough Canyon Federal 30-1

9. API Well No.
43039500030000

10. Field and Pool, or Exploratory Area
Exploratory

11. County or Parish, State
Sanpete, Utah

SUBMIT IN TRIPLICATE- Other instructions on reverse side.

1. Type of Well
☐ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator
Wolverine Operating Company of Utah, LLC

3a. Address
55 Campau NW, Grand Rapids, MI 49503

3b. Phone No. (include area code)
616-458-1150

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
SHL: 288' FNL, 452' FWL, Sec 32, T17S, R1E, NWNW

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

TYPE OF ACTION

☒ Notice of Intent

☐ Subsequent Report

☐ Final Abandonment Notice

☐ Acidize

☐ Alter Casing

☐ Casing Repair

☒ Change Plans

☐ Convert to Injection

☐ Deepen

☐ Fracture Treat

☐ New Construction

☐ Plug and Abandon

☐ Plug Back

☐ Production (Start/Resume)

☐ Reclamation

☐ Recomplete

☐ Temporarily Abandon

☐ Water Disposal

☐ Water Shut-Off

☐ Well Integrity

☐ Other

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomple horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Wolverine Operating Company of Utah, LLC proposes several changes to the approved APD to accommodate different drilling practices so as to better improve our chance of reaching the target formations. These changes have been discussed with Marvin Hendrick, BLM, and this sundry formalizes those changes.

Please see Sundry Attachment 10-05-2010 for details.

COPY SENT TO OPERATOR

Date: 11-18-2010
Initials: KS

Accepted by the
Utah Division of
Oil, Gas and Mining

Federal Approval Of This
Action Is Necessary

COPY

14. I hereby certify that the foregoing is true and correct
Name (Printed/Typed)

Edward A Higuera

Title **Manager - Development**

Signature

Date

10/05/2010

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

Date

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

RECEIVED

OCT 12 2010

DIV. OF OIL, GAS & MINING

CONFIDENTIAL

Wolverine Operating Company of Utah, LLC

Rough Canyon Federal 30-1

Sundry Attachment 10-05-2010

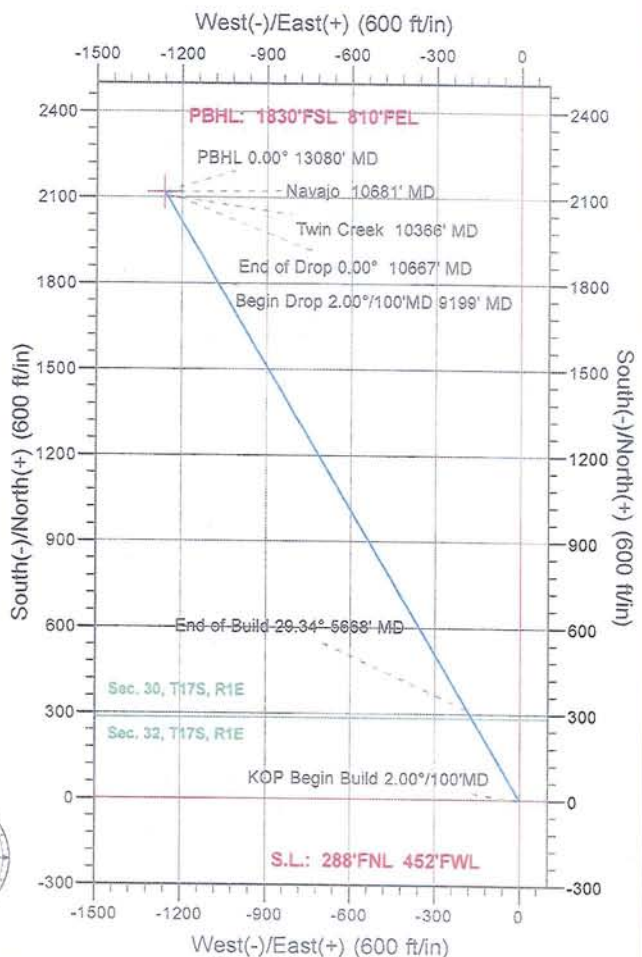
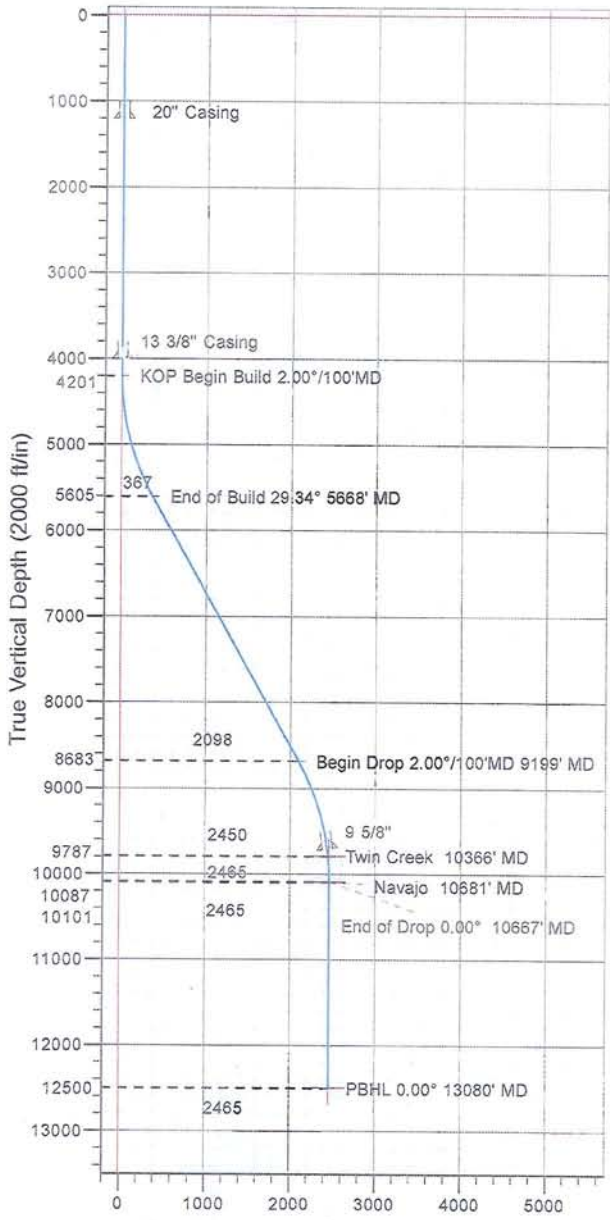
1. Change of conductor size: The original APD had proposed setting 20" conductor to 1200' MD and cementing to surface. This conductor was to be set with Boart rig, using reverse circulation method. After reviewing the drilling performance at the Painted Rock prospect, we proposed setting larger conductor casing to accommodate drilling the surface hole with the Boart rig. Therefore, we proposed drilling a 28" hole and setting 22" , 0.50" wall thickness, 104 #/ft A53B ERW, PE pipe to 1421' (GL). (Note: this casing setting depth will be 1399' DF when referenced to the Patterson rig derrick floor.) The conductor was cemented to surface using 1656 sacks, Class G with 2-4% CaCl, placed in ten separate stages with tremie pipe. Cement weight ranged from 15.3 to 15.5 ppg, with a 1.17 yield.
2. Setting Surface Casing: The original APD proposed using Patterson rig 304, using conventional drilling methods to set 13-3/8" surface casing in a 17.5" hole at 4000' DF. Wolverine proposes drilling the surface casing with Boart rig LM 700, using the reverse circulation method, drilling a 19" hole to 4000' DF and setting the 13-3/8" casing. The only change in this section is drilling a 19" hole instead of a 17.5" hole, using Boart rig, and cementing with Boart rig, using tremie pipe method. Because of the 19" hole, the cement volumes will increase, and the cement type will be Class G with 2-4% CaCl. Anticipated cement volume: 4750 sacks, Class G, 15.6 ppg, 1.17 yield.
3. Change of Drlg Fluid: The original APD proposed drilling the Arapien section with a salt mud system. We are now proposing drilling this section with OBM, because of the hole problems we've seen in recently drilled exploration wells, and for the potential similar issues could be encountered in this well.
4. Revised directional plan: Because the surface casing will be set with Boart rig, directional drilling will not start until surface casing is set and cemented. The attached directional plan reflects kicking off at 4200'. BHL has not changed. The revised directional plan will result in a slightly longer wellbore trajectory. Therefore, the new proposed TD will be 13,100' (approximately 300' feet deeper). The proposed casing depth for the 9-5/8" and 5.5 liner would also move down 300' to approximately 10,400' and 13,100', respectively.

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Wolverine Gas & Oil Company
Rough Canyon Federal 30-1
Sanpete County, Utah



gyro/data



SITE DETAILS: Sanpete County, Utah
 Site Centre Latitude: 39° 17' 40.276 N
 Longitude: 111° 50' 16.454 W
 Positional Uncertainty: 0.0
 Convergence: -0.22
 Local North: Grid

Azimuths to Grid North
 True North: 0.22°
 Magnetic North: 0.22°
 Magnetic Field
 Strength: 0.0snT
 Dip Angle: 0.00°
 Date: 2010/04/08
 Model: USER DEFINED

Vertical Section at 329.21° (2000 ft/in)

Design #2

Surface Location											
Northing				Easting				Latitude			
350273.10				1904368.00				39° 17' 40.276 N			
								111° 50' 16.454 W			
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target	
1	4200.0	0.00	0.00	4200.0	0.0	0.0	0.00	0.00	0.0		
2	4200.8	0.00	0.00	4200.8	0.0	0.0	0.00	0.00	0.0		
3	5667.8	29.34	329.21	5604.6	315.7	-188.1	2.00	329.21	367.5		
4	9199.6	29.34	329.21	8683.3	1802.3	-1073.9	0.00	329.21	2098.0		
5	10666.6	0.00	0.00	10087.0	2118.0	-1262.0	2.00	180.00	2465.5	Vertical Point	
6	10680.6	0.00	0.00	10101.0	2118.0	-1262.0	0.00	0.00	2465.5	Navajo	
8	13079.6	0.00	0.00	12500.0	2118.0	-1262.0	0.00	0.00	2465.5	PBHL	

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STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-82536
		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
		7. UNIT or CA AGREEMENT NAME:
1. TYPE OF WELL Oil Well		8. WELL NAME and NUMBER: ROUGH CANYON FED 30-1
2. NAME OF OPERATOR: WOLVERINE OPERATING COMPANY OF UTAH, LLC		9. API NUMBER: 43039500030000
3. ADDRESS OF OPERATOR: One Riverfront Plaza 55 Campau NW, Grand Rapids, MI, 49503		9. FIELD and POOL or WILDCAT: WILDCAT
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0288 FNL 0452 FWL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWNW Section: 32 Township: 17.0S Range: 01.0E Meridian: S		COUNTY: SANPETE
		STATE: UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
TYPE OF SUBMISSION	TYPE OF ACTION	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> ALTER CASING	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CASING REPAIR	
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 12/1/2010	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	
	<input type="checkbox"/> CHANGE TUBING	
	<input type="checkbox"/> CHANGE WELL STATUS	
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	
	<input type="checkbox"/> DEEPEN	
	<input type="checkbox"/> FRACTURE TREAT	
	<input type="checkbox"/> OPERATOR CHANGE	
	<input type="checkbox"/> PLUG AND ABANDON	
	<input type="checkbox"/> PRODUCTION START OR RESUME	
	<input type="checkbox"/> RECLAMATION OF WELL SITE	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> VENT OR FLARE	
	<input type="checkbox"/> WATER SHUTOFF	
	<input type="checkbox"/> SI TA STATUS EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	
	<input type="checkbox"/> OTHER	
	OTHER: <input style="width: 100px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. Please see attached drilling summary for details.		
Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY		
NAME (PLEASE PRINT) Helene Bardolph		PHONE NUMBER 616 458-1150
SIGNATURE N/A		TITLE Engineering Administrative Assistant
		DATE 12/1/2010

August/September 2010 Drilling Update

Wolverine Operating Company of Utah, LLC
Rough Canyon Federal 30-1
API #43039500030000
NWNW, Section 32, T17S, R1E
Sevier County, Utah

1 November 2010

Depth 2861' GL, 22" x ½" wall @ 1421' GL. Drill to 2861, TFNB. MW – 8.8, Vis. – 50, FL – 10.4. Surveys: none.

2 November 2010

Depth 2898' GL, 22" x ½" wall @ 1421' GL. GIH, wash & ream to bottom, drill. MW – 8.8, Vis. – 56, FL – 13.6. Surveys: none.

3 November 2010

Depth 2912' GL, 22" x ½" wall @ 1421' GL. Drill & survey, POOH looking for leaks in drill string. MW – 8.8, Vis. – 56, FL – 13.6. Surveys: 6° @ 2862.

4 November 2010

Depth 2912' GL, 22" x ½" wall @ 1421' GL. POOH, change bit, GIH, attempt to circulate on bottom, plugged string, POOH. MW – 8.8, Vis. – 56, FL – 13.6. Surveys: none.

5 November 2010

Depth 2959' GL, 22" x ½" wall @ 1421' GL. POOH, GIH building stands, drilling. MW – 8.7, Vis. – 55, FL – 11.2. Surveys: none.

6 November 2010

Depth 3049' GL, 22" x ½" wall @ 1421' GL. Drill & survey. MW – 8.9, Vis. – 55, FL – 8.4. Surveys: 6° @ 2920'.

7 November 2010

Depth 3102 GL, 22" x ½" wall @ 1421' GL. Drill & survey, POOH. MW – 8.9, Vis. – 57, FL – 12. Surveys: 5¼° @ 3000'.

8 November 2010

Depth 3123 GL, 22" x ½" wall @ 1421' GL. POOH for new bit, GIH, drill & survey. MW – 8.9, Vis. – 55, FL – 8.2. Surveys: 6° @ 3070'.

9 November 2010

Depth 3220' DF, 22" x ½" wall @ 1421' GL. Drill & survey. MW – 9, Vis. – 58, FL – 10. Surveys: 5° @ 3145'.

10 November 2010

Depth 3318' DF, 22" x ½" wall @ 1421' GL. Drill & survey. MW – 9, Vis. – 58, FL – 10.5. Surveys: none.

11 November 2010

Depth 3329' DF, 22" x ½" wall @ 1421' GL. Drill & survey, POOH, change bit, GIH. MW – 9, Vis. – 58, FL – 10.5. Surveys: 5¾° @ 3245'.

12 November 2010

Depth 3351' DF, 22" x ½" wall @ 1421' GL. GIH, drill. MW – 9, Vis. – 60, FL – 9. Surveys: none.

13 November 2010

Depth 3353' DF, 22" x ½" wall @ 1421' GL. Drill, TFNB, drill. MW – 8.9, Vis. – 57, FL – 9. Surveys: none.

14 November 2010

Depth 3385' DF, 22" x ½" wall @ 1421' GL. Drill & survey. MW – 8.9, Vis. – 58, FL – 9. Surveys: 5¾° @ 3317'.

15 November 2010

Depth 3449' DF, 22" x 1/2" wall @ 1421' GL. Drill. MW -9, Vis. - 56, FL - 8. Surveys: 6° @ 3070'.

16 November 2010

Depth 3457' DF, 22" x 1/2" wall @ 1421' GL. Drill & survey, TFNB. MW - 9, Vis. - 57, FL - 8. Surveys: 7° @ 3384'.

17 November 2010

Depth 3472' DF, 22" x 1/2" wall @ 1421' GL. GIH, drill. MW - 9.1, Vis. - 56, FL - 9.2. Surveys: none.

18 November 2010

Depth 3512' DF, 22" x 1/2" wall @ 1421' GL. Drill & survey, POOH. MW - 9, Vis. - 55, FL - 8. Surveys: 6 1/4° @ 3450'.

19 November 2010

Depth 3545' DF, 22" x 1/2" wall @ 1421' GL. TFNB, drill. MW - 9.1, Vis. - 48, FL - 9.2. Surveys: none.

20 November 2010

Depth 3617' DF, 22" x 1/2" wall @ 1421' GL. Drill & survey. MW - 8.9, Vis. - 56, FL - 9.5. Surveys: 6 1/2° @ 3511'.

21 November 2010

Depth 3690' DF, 22" x 1/2" wall @ 1421' GL. Drill & survey. MW - 8.9, Vis. - 55, FL - 9.6. Surveys: 6 1/2° @ 3571'.

22 November 2010

Depth 3710' DF, 22" x 1/2" wall @ 1421' GL. Drill, POOH. MW -8.9, Vis. - 56, FL - 10.2. Surveys: 6 1/4° @ 3647'.

23 November 2010

Depth 3711' DF, 22" x 1/2" wall @ 1421' GL. GIH, C&C, wash to bottom, C&C, POOH. MW - 8.9, Vis. - 56, FL - 10.2. Surveys: none.

24 November 2010

Depth 3733' DF, 22" x 1/2" wall @ 1421' GL. POOH, PU BHA, GIH, circ & wash to bottom, drill. MW - 8.8, Vis. - 58, FL - 10.8. Surveys: none.

25 November 2010

Depth 3807' DF, 22" x 1/2" wall @ 1421' GL. Drill & survey, stuck pipe, work free, POOH 100', wash to bottom. MW - 8.8, Vis. - 58, FL - 10.8. Surveys: none.

26 November 2010

Depth 3829' DF, 22" x 1/2" wall @ 1421' GL. Wash to bottom, drill & survey, stuck pipe, work free, POOH. MW - 8.8, Vis. - 60, FL - 12.8. Surveys: 6° @ 3720'.

27 November 2010

Depth 3829' DF, 22" x 1/2" wall @ 1421' GL. GIH, mix & pump mud. MW - 9.8, Vis. - 65, FL - not measured. Surveys: none.

28 November 2010

Depth 3829' DF, 22" x 1/2" wall @ 1421' GL. Build mud weight, GIH, wash to 3698', pull up to 3644', C&C. MW - 9.5, Vis. - 64, FL - 12. Surveys: none.

29 November 2010

Depth 3829' DF, 22" x 1/2" wall @ 1421' GL. C&C, build mud weight, wash to 3814. MW -10, Vis. - 75, FL - 12. Surveys: none.

30 November 2010

Depth 3829' DF, 22" x 1/2" walls @ 1421' GL. Wash to 3826', Bit stuck, unplugged, circulate and condition mud. MW 10.10, Vis. 67, FL - Not reported. Surveys: none

Carol Daniels - Rough Canyon Federal 30-1 Update *TIPS ROLE 5-32 43-039-50003*

From: "Bill Donovan"

To: "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope " , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels, Carol" , "Denton, Derek" , "Dieste, Bobby" , "Foreman, Ron" , "George Zamantakis " , "Hall, Denise" , "Harry Melnikoff" , "Hendricks, Marvin" , "Hutcinson, Clayton" , "Jeff Ainge" , "Jim Barry" , "Jimmy Germon" , "Jones, Mark" , "Kenneth Schultz Jr" , "Kent Donner" , "Kulow, Kyle" , "Kyle Cox" , "Lewis, John" , "McCoy, Charlene" , "McCoy, Tim" , "Nilles, Chris" , "O'Connell, David" , "Perry, Bud (Smith Bits)" , "Pickup, Marc" , "Revert, Scott" , "Robinson, Darin" , "Ryan Thomas" , "Shawn Moulton" , "Shelton, Shorty" , , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Winkler, Matt" , "Zimmerman, Bill"

Date: 12/24/2010 6:57 PM

Subject: Rough Canyon Federal 30-1 Update

12/24/2010 6:54 PM

Drilling 12 ¼" hole at 4,098'

Next casing point has not been determined

Bill Donovan

Wolverine Operating Company of Utah, LLC

Rough Canyon Federal 30-1

AFE 224 API 43-039-50003-00-00

Rig (970) 361-3276

boart@drillmail.net

Cell (720) 351-7470

donovan@petroleum-eng.com

RECEIVED

DEC 27 2010

DIV. OF OIL, GAS & MINING

Carol Daniels - Rough Canyon Federal 30-1 Update *T175 ROIES-32 43-039-50003*

From: "Bill Donovan"
To: "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels, Carol" , "Denton, Derek" , "Dieste, Bobby" , "Foreman, Ron" , "George Zamantakis" , "Hall, Denise" , "Harry Melnikoff" , "Hendricks, Marvin" , "Howard, Art" , "Hutcinson, Clayton" , "Jeff Ainge" , "Jim Barry" , "Jimmy Germon" , "Jones, Mark" , "Kenneth Schultz Jr" , "Kent Donner" , "Kulow, Kyle" , "Kyle Cox" , "Levi Smuin" , "Levi Smuin" , "Lewis, John" , "McCoy, Charlene" , "McCoy, Tim" , "Nilles, Chris" , "O'Connell, David" , "Perry, Bud (Smith Bits)" , "Pickup, Marc" , "Revert, Scott" , "Robinson, Darin" , "Ryan Thomas" , "Shawn Moulton" , "Shelton, Shorty" , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Winkler, Matt" , "Zimmerman, Bill"
Date: 12/25/2010 4:19 PM
Subject: Rough Canyon Federal 30-1 Update

12/25/2010 4:15 PM

Drilling at 4,147'

Casing point has not been determined

Bill Donovan
Wolverine Operating Company of Utah, LLC
Rough Canyon Federal 30-1
AFE 224 API 43-039-50003-00-00
Rig (970) 361-3276
boart@drillmail.net
Cell (720) 351-7470
donovan@petroleum-eng.com

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DIV. OF OIL, GAS & MINING

Carol Daniels - Rough Canyon Federal 30-1 Update

T195 R01E 5-32 43-039-50003

From: "Bill Donovan"**To:** "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Bolding, Russell" , "Brock Pope" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugard" , "Daniel Jenkins" , "Daniels, Carol" , "Denton, Derek" , "Dieste, Bobby" , "Foreman, Ron" , "George Zamantakis" , "Hall, Denise" , "Harry Melnikoff" , "Hendricks, Marvin" , "Howard, Art" , "Hutcinson, Clayton" , "Jeff Ainge" , "Jim Barry" , "Jimmy Germon" , "Jones, Mark" , "Kenneth Schultz Jr" , "Kent Donner" , "Kulow, Kyle" , "Kyle Cox" , "Levi Smuin" , "Levi Smuin" , "Lewis, John" , "McCoy, Charlene" , "McCoy, Tim" , "Nilles, Chris" , "O'Connell, David" , "Perry, Bud (Smith Bits)" , "Pickup, Marc" , "Revert, Scott" , "Robinson, Darin" , "Ryan Thomas" , "Shawn Moulton" , "Shelton, Shorty" , , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Winkler, Matt" , "Zimmerman, Bill"**Date:** 12/26/2010 8:46 PM**Subject:** Rough Canyon Federal 30-1 Update

12/26/2010 8:38 PM

Drilling at 4,183'

Casing point has not been determined.

Bill Donovan

Wolverine Operating Company of Utah, LLC

Rough Canyon Federal 30-1

AFE 224 API 43-039-50003-00-00

Rig (970) 361-3276

boart@drillmail.net

Cell (720) 351-7470

donovan@petroleum-eng.com

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DIV. OF OIL, GAS & MINING

Carol Daniels - Rough Canyon Federal 30-1 Update *T175 ROIE S-32 43-039-5003*

From: "Bill Donovan"
To: "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Bolding, Russell" , "Brock Pope" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels, Carol" , "Denton, Derek" , "Dieste, Bobby" , "Foreman, Ron" , "George Zamantakis" , "Hall, Denise" , "Harlan Wilkins" , "Harry Melnikoff" , "Hendricks, Marvin" , "Howard, Art" , "Hutcinson, Clayton" , "Jeff Ainge" , "Jim Barry" , "Jimmy Germon" , "Jones, Mark" , "Kenneth Schultz Jr" , "Kent Donner" , "Kulow, Kyle" , "Kyle Cox" , "Levi Smuin" , "Levi Smuin" , "Lewis, John" , "McCoy, Charlene" , "McCoy, Tim" , "Nilles, Chris" , "O'Connell, David" , "Perry, Bud (Smith Bits)" , "Pickup, Marc" , "Revert, Scott" , "Robinson, Darin" , "Ryan Thomas" , "Shawn Moulton" , "Shelton, Shorty" , , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Winkler, Matt" , "Zimmerman, Bill"
Date: 12/27/2010 6:14 PM
Subject: Rough Canyon Federal 30-1 Update

12/27/2010 6:09 PM

Drilling at 4,267'

The casing point has not been determined.

Bill Donovan
Wolverine Operating Company of Utah, LLC
Rough Canyon Federal 30-1
AFE 224 API 43-039-50003-00-00
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donovan@petroleum-eng.com

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DEC 28 2010

DIV. OF OIL, GAS & MINING

Carol Daniels - Rough Canyon Federal 30-1 Update *T175 R01E S-32 43-039-50003*

From: "Bill Donovan"
To: "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Bolding, Russell" , "Brock Pope" ,
"Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,
Carol" , "Denton, Derek" , "Dieste, Bobby" , "Foreman, Ron" , "George Zamantakis" ,
"Hall, Denise" , "Harlan Wilkins" , "Harry Melnikoff" , "Hendricks, Marvin" , "Howard,
Art" , "Hutcinson, Clayton" , "Jeff Ainge" , "Jim Barry" , "Jimmy Germon" , "Jones,
Mark" , "Kenneth Schultz Jr" , "Kent Donner" , "Kulow, Kyle" , "Kyle Cox" , "Levi
Smuin" , "Levi Smuin" , "Lewis, John" , "McCoy, Charlene" , "McCoy, Tim" , "Nilles,
Chris" , "O'Connell, David" , "Perry, Bud (Smith Bits)" , "Pickup, Marc" , "Revert,
Scott" , "Robinson, Darin" , "Ryan Thomas" , "Shawn Moulton" , "Shelton, Shorty" , ,
"Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis, Walton
Home" , "Winkler, Matt" , "Zimmerman, Bill"
Date: 12/28/2010 7:33 PM
Subject: Rough Canyon Federal 30-1 Update

12/28/2010 7:30 PM

Tripping for a new bit,

The casing point has not been determined.

Bill Donovan
Wolverine Operating Company of Utah, LLC
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Page 1 of 1

Carol Daniels - Rough Canyon Federal 30-1 Update

T175 ROIE S-32 43-039-50003

From: "Bill Donovan"

To: "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Bolding, Russell" , "Brock Pope" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels, Carol" , "Denton, Derek" , "Dieste, Bobby" , "Foreman, Ron" , "George Zamantakis" , "Hall, Denise" , "Harlan Wilkins" , "Harry Melnikoff" , "Hendricks, Marvin" , "Howard, Art" , "Hutcinson, Clayton" , "Jeff Ainge" , "Jim Barry" , "Jimmy Germon" , "Jones, Mark" , "Kenneth Schultz Jr" , "Kent Donner" , "Kulow, Kyle" , "Kyle Cox" , "Levi Smuin" , "Levi Smuin" , "Lewis, John" , "McCoy, Charlene" , "McCoy, Tim" , "Nilles, Chris" , "O'Connell, David" , "Perry, Bud (Smith Bits)" , "Pickup, Marc" , "Revert, Scott" , "Robinson, Darin" , "Ryan Thomas" , "Shawn Moulton" , "Shelton, Shorty" , , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis, Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"

Date: 12/29/2010 7:23 PM

Subject: Rough Canyon Federal 30-1 Update

12/29/2010 7:11 PM

Drilling at 4,350'

Casing point has not been determined.

Over one foot of snow has fallen. If you plan to come to the rig bring chains

Bill Donovan

Wolverine Operating Company of Utah, LLC

Rough Canyon Federal 30-1

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Carol Daniels - Rough Canyon Federal 30-1 Update

T175 ROLE S-32 43-039-50003

From: "Bill Donovan"

To: "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Bolding, Russell" , "Brock Pope" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels, Carol" , "Denton, Derek" , "Dieste, Bobby" , "Foreman, Ron" , "George Zamantakis" , "Hall, Denise" , "Harlan Wilkins" , "Harry Melnikoff" , "Hendricks, Marvin" , "Howard, Art" , "Hutcinson, Clayton" , "Jeff Ainge" , "Jim Barry" , "Jimmy Germon" , "Jones, Mark" , "Kenneth Schultz Jr" , "Kent Donner" , "Kulow, Kyle" , "Kyle Cox" , "Levi Smuin" , "Levi Smuin" , "Lewis, John" , "McCoy, Charlene" , "McCoy, Tim" , "Nilles, Chris" , "O'Connell, David" , "Perry, Bud (Smith Bits)" , "Pickup, Marc" , "Revert, Scott" , "Robinson, Darin" , "Ryan Thomas" , "Shawn Moulton" , "Shelton, Shorty" , , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis, Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"

Date: 12/30/2010 4:15 PM

Subject: Rough Canyon Federal 30-1 Update

12/30/2010 4:02 PM

Drilling at 4,439'

The casing point had not been determined.

If you plan to come to the rig, you must have chains and expect to use them.

Bill Donovan

Wolverine Operating Company of Utah, LLC

Rough Canyon Federal 30-1

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DIV. OF OIL, GAS & MINING

Carol Daniels - Rough Canyon Federal 30-1 Update*TIPS ROLE 5-32 43-039-50003***From:** "Bill Donovan"**To:** "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Bolding, Russell" , "Brock Pope" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels, Carol" , "Denton, Derek" , "Dieste, Bobby" , "Foreman, Ron" , "George Zamantakis" , "Hall, Denise" , "Harlan Wilkins" , "Harry Melnikoff" , "Hendricks, Marvin" , "Howard, Art" , "Hutcinson, Clayton" , "Jeff Ainge" , "Jim Barry" , "Jimmy Germon" , "Jones, Mark" , "Kenneth Schultz Jr" , "Kent Donner" , "Kulow, Kyle" , "Kyle Cox" , "Levi Smuin" , "Levi Smuin" , "Lewis, John" , "McCoy, Charlene" , "McCoy, Tim" , "Nilles, Chris" , "O'Connell, David" , "Perry, Bud (Smith Bits)" , "Pickup, Marc" , "Revert, Scott" , "Robinson, Darin" , "Ryan Thomas" , "Shawn Moulton" , "Shelton, Shorty" , , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis, Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"**Date:** 1/1/2011 6:12 AM**Subject:** Rough Canyon Federal 30-1 Update

12/31/2010 10:14 PM

Drilling at 4,540'

Casing point has not been determined.

Bill Donovan

Wolverine Operating Company of Utah, LLC

Rough Canyon Federal 30-1

AFE 224 API 43-039-50003-00-00

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donovan@petroleum-eng.com

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JAN 03 2011

DIV. OF OIL, GAS & MINING

Carol Daniels - Rough Canyon Federal 30-1 Update*T17S R01E S-32 43-039-50003*

From: "Bill Donovan"
To: "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Bolding, Russell" , "Brock Pope" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels, Carol" , "Denton, Derek" , "Dieste, Bobby" , "Foreman, Ron" , "George Zamantakis" , "Hall, Denise" , "Harlan Wilkins" , "Harry Melnikoff" , "Hendricks, Marvin" , "Howard, Art" , "Hutcinson, Clayton" , "Jeff Ainge" , "Jim Barry" , "Jimmy Germon" , "Jones, Mark" , "Kenneth Schultz Jr" , "Kent Donner" , "Kulow, Kyle" , "Kyle Cox" , "Levi Smuin" , "Levi Smuin" , "Lewis, John" , "McCoy, Charlene" , "McCoy, Tim" , "Nilles, Chris" , "O'Connell, David" , "Perry, Bud (Smith Bits)" , "Pickup, Marc" , "Revert, Scott" , "Robinson, Darin" , "Ryan Thomas" , "Shawn Moulton" , "Shelton, Shorty" , , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis, Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"
Date: 1/1/2011 8:21 PM
Subject: Rough Canyon Federal 30-1 Update

1/1/2011 8:17 PM

Drilling at 4,597', PR 5.3 fph

Casing point has not been determined

Bill Donovan
Wolverine Operating Company of Utah, LLC
Rough Canyon Federal 30-1
AFE 224 API 43-039-50003-00-00
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donovan@petroleum-eng.com

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JAN 03 2011

DIV. OF OIL, GAS & MINING

Carol Daniels - Rough Canyon Federal 30-1 Update*T125 ROLE 5-32 43-039-50003***From:** "Bill Donovan"**To:** "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Bolding, Russell" , "Brock Pope" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels, Carol" , "Denton, Derek" , "Dieste, Bobby" , "Foreman, Ron" , "George Zamantakis" , "Hall, Denise" , "Harlan Wilkins" , "Harry Melnikoff" , "Hendricks, Marvin" , "Howard, Art" , "Hutcinson, Clayton" , "Jeff Ainge" , "Jim Barry" , "Jimmy Germon" , "Jones, Mark" , "Kenneth Schultz Jr" , "Kent Donner" , "Kulow, Kyle" , "Kyle Cox" , "Levi Smuin" , "Levi Smuin" , "Lewis, John" , "McCoy, Charlene" , "McCoy, Tim" , "Nilles, Chris" , "O'Connell, David" , "Perry, Bud (Smith Bits)" , "Pickup, Marc" , "Revert, Scott" , "Robinson, Darin" , "Ryan Thomas" , "Shawn Moulton" , "Shelton, Shorty" , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis, Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"**Date:** 1/3/2011 5:15 AM**Subject:** Rough Canyon Federal 30-1 Update

1/3/2011 5:08 AM

Washing and reaming to bottom after trip for new bit. Hole depth 4,627'

Bill Donovan

Wolverine Operating Company of Utah, LLC

Rough Canyon Federal 30-1

AFE 224 API 43-039-50003-00-00

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DIV. OF OIL, GAS & MINING

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Page 1 of 1

Carol Daniels - Rough Canyon Federal 30-1 Update *T 175 R 01E S-32 43-039-50003*

From: "Bill Donovan"

To: "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Bolding, Russell" , "Brock Pope" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels, Carol" , "Denton, Derek" , "Dieste, Bobby" , "Foreman, Ron" , "George Zamantakis" , "Hall, Denise" , "Harlan Wilkins" , "Harry Melnikoff" , "Hendricks, Marvin" , "Howard, Art" , "Hutcinson, Clayton" , "Jeff Ainge" , "Jim Barry" , "Jimmy Germon" , "Jones, Mark" , "Kenneth Schultz Jr" , "Kent Donner" , "Kulow, Kyle" , "Kyle Cox" , "Levi Smuin" , "Levi Smuin" , "Lewis, John" , "McCoy, Charlene" , "McCoy, Tim" , "Nilles, Chris" , "O'Connell, David" , "Perry, Bud (Smith Bits)" , "Pickup, Marc" , "Revert, Scott" , "Robinson, Darin" , "Ryan Thomas" , "Shawn Moulton" , "Shelton, Shorty" , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis, Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"

Date: 1/4/2011 5:42 AM

Subject: Rough Canyon Federal 30-1 Update

1/4/2011 5:27 AM

Drilling at 4,705'

Casing point has not been determined.

Bill Donovan

Wolverine Operating Company of Utah, LLC

Rough Canyon Federal 30-1

AFE 224 API 43-039-50003-00-00

Rig (970) 361-3276

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Cell (720) 351-7470

donovan@petroleum-eng.com

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JAN 04 2011

DIV. OF OIL, GAS & MINING

Carol Daniels - Rough Canyon Federal 30-1 Update *T175 ROIE S-32 43-039-50003*

From: "Bill Donovan"

To: "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Bolding, Russell" , "Brock Pope" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels, Carol" , "Denton, Derek" , "Dieste, Bobby" , "Foreman, Ron" , "George Zamantakis" , "Hall, Denise" , "Harlan Wilkins" , "Harry Melnikoff" , "Hendricks, Marvin" , "Howard, Art" , "Hutcinson, Clayton" , "Jeff Ainge" , "Jim Barry" , "Jimmy Germon" , "Jones, Mark" , "Kenneth Schultz Jr" , "Kent Donner" , "Kulow, Kyle" , "Kyle Cox" , "Levi Smuin" , "Levi Smuin" , "Lewis, John" , "McCoy, Charlene" , "McCoy, Tim" , "Nilles, Chris" , "O'Connell, David" , "Perry, Bud (Smith Bits)" , "Pickup, Marc" , "Revert, Scott" , "Robinson, Darin" , "Ryan Thomas" , "Shawn Moulton" , "Shelton, Shorty" , , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis, Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"

Date: 1/5/2011 5:34 AM

Subject: Rough Canyon Federal 30-1 Update

1/5/2011 5:11 AM

Drilling at 4,782', PR 4.2 fph

Casing point has not been determined

Bill Donovan

Wolverine Operating Company of Utah, LLC

Rough Canyon Federal 30-1

AFE 224 API 43-039-50003-00-00

Rig (970) 361-3276

boart@drillmail.net

Cell (720) 351-7470

donovan@petroleum-eng.com

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JAN 05 2011

DIV. OF OIL, GAS & MINING

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

JAN 10 2011

FORM APPROVED
OMB No. 1004-0135
Expires January 31, 2004

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on reverse side

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator
Wolverine Operating Company of Utah, LLC

3a. Address
55 Campau NW, Grand Rapids, MI 49503

3b. Phone No. (include area code)
616-

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
288' FNL, 452' FWL, Sec 32, T17S, R1E (NW4/NW4)

5. Lease Serial No.
UTU-82536

6. If Indian, Allottee or Tribe Name
N/A

7. If Unit or CA/Agreement, Name and/or No.
N/A

8. Well Name and No.
Rough Canyon Federal 30-1

9. API Well No.
43039500030000

10. Field and Pool, or Exploratory Area
Exploratory

11. County or Parish, State
Sanpete

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION				
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off	
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity	
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other	
	<input checked="" type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon		
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal		

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomple horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Wolverine Operating Company of Utah LLC, Rough Canyon Federal 30-1

Wolverine Operating Company of Utah, LLC is drilling the Rough Canyon Federal 30-1 and because of hole conditions several changes have been made to the approved APD.

1. Additional conductor set: Originally 13-3/8" casing was to be set in the Arapien as surface casing. However, because of hole conditions, the 13-3/8" string was set as a conductor string at 3770' in the North Horn/Indianola and cemented to surface with 1451 sacks of 14.4 ppg, 1.05 cf/sk, Schlumberger TXI Blend for a TOC of approximately 2710'. A tremie pipe was used to complete the cementing to surface in seven lifts using a total of 3513 cf (~2977 sacks) of 15.3 to 15.6 ppg + 1% calcium chloride.

2. Surface Casing: 9-5/8", 53.5 ppf L-80 is now proposed as surface casing which will be set into the Arapien and cemented to surface, and on to which the wellhead spool will be welded for placement of BOP equipment. This casing will be cemented to surface using approximately 2000 sacks of Schlumberger TXI Blend, 14.4 ppg, 1.05 cf/sacks. A packer-stage tool will be placed at 3500' so cement can be brought to surface.

COPY SENT TO OPERATOR

14. I hereby certify that the foregoing is true and correct

Name (Printed/Typed)

Edward A. Higuera

Title Manager of Development

Date: 1.25.2011

Initials: KS

Signature

Date 01/04/2011

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

Pet-Eng.

Date

1/20/2011

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

DOG

Federal Approval Of This
Action Is Necessary

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on reverse)

CONFIDENTIAL



**WOLVERINE GAS AND OIL COMPANY
OF UTAH, LLC**

Energy Exploration in Partnership with the Environment

January 4, 2011

RECEIVED
JAN 10 2011
DIV. OF OIL, GAS & MINING

Mr. Stan Andersen
Fluid Minerals Group, BLM
Richfield Field Office
150 East 900 North
Richfield, UT 84701

Re: Rough Canyon Federal 30-1

Dear Mr. Anderson,

Enclosed are one original and two copies of the following sundry:
Rough Canyon Federal 30-1 , Change of Plans

Please let me know if you have any questions or concerns regarding the above mentioned document.

Please consider this our official request to keep the enclosed document confidential.

Sincerely,

Helene Bardolph
Engineering Administrative Assistant

Enclosures

cc: Mr. John Rogers, UDOGM

CONFIDENTIAL

Page 1 of 1

Carol Daniels - Rough Canyon Federal 30-1 Update *T175 ROIE 5-32 43-039-50003*

From: "Bill Donovan"
To: "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Bolding, Russell" , "Brock Pope" ,
"Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,
Carol" , "Denton, Derek" , "Dieste, Bobby" , "Foreman, Ron" , "George Zamantakis" ,
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"Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis, Walton
Home" , "Winkler, Matt" , "Zimmerman, Bill"
Date: 1/11/2011 10:11 PM
Subject: Rough Canyon Federal 30-1 Update
CC: "Jack Magill"

1/11/2011 10:10 PM

Trip for new bit

Bill Donovan
Wolverine Operating Company of Utah, LLC
Rough Canyon Federal 30-1
AFE 224 API 43-039-50003-00-00
Rig (970) 361-3276
boart@drillmail.net
Cell (720) 351-7470
donovan@petroleum-eng.com

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JAN 12 2011

DIV. OF OIL, GAS & MINING

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Carol Daniels - Rough Canyon Federal 30-1 Update *TIPS ROLE 5-32 43-039-50003*

From: "Jack Magill"
To: "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Bolding, Russell" , "Brock Pope"
 " , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" ,
 "Daniels, Carol" , "Denton, Derek" , "Dieste, Bobby" , "Foreman, Ron" , "George
 Zamantakis" , "Hall, Denise" , "Harlan Wilkins" , "Harry Melnikoff" , "Hendricks,
 Marvin" , "Howard, Art" , "Hutcinson, Clayton" , "Jeff Ainge" , "Jim Barry" , "Jimmy
 Germon" , "Jones, Mark" , "Kenneth Schultz Jr" , "Kent Donner" , "Kulow, Kyle" ,
 "Kyle Cox" , "Levi Smuin" , "Levi Smuin" , "Lewis, John" , "McCoy, Charlene" ,
 "McCoy, Tim" , "Nilles, Chris" , "O'Connell, David" , "Perry, Bud (Smith Bits)" ,
 "Pickup, Marc" , "Revert, Scott" , "Robinson, Darin" , "Ryan Thomas" , "Shawn
 Moulton" , "Shelton, Shorty" , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" ,
 "Willis, Walton" , "Willis, Walton Home" , "Winkler, Matt" , "Zimmerman, Bill" ,
Date: 1/13/2011 4:50 AM
Subject: Rough Canyon Federal 30-1 Update

1/13/11 4:44 AM

Drilling at 5240'

Jack Magill
 Wolverine Operating Company of Utah, LLC
 Rough Canyon Federal 30-1
 AFE 224 API 43-039-50003-00-00
 Rig (970) 361-3276
 boart@drillmail.net

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JAN 13 2011

DIV. OF OIL, GAS & MINING

Carol Daniels - Rough Canyon Federal 30-1 Update**TMS ROIES-32 4303950003****From:** "Jack Magill"**To:** "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Bolding, Russell" , "Brock Pope" , "Bill Donovan" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels, Carol" , "Denton, Derek" , "Dieste, Bobby" , "Foreman, Ron" , "George Zamantakis" , "Hall, Denise" , "Harlan Wilkins" , "Harry Melnikoff" , "Hendricks, Marvin" , "Howard, Art" , "Hutkinson, Clayton" , "Jeff Ainge" , "Jim Barry" , "Jimmy Germon" , "Jones, Mark" , "Kenneth Schultz Jr" , "Kent Donner" , "Kulow, Kyle" , "Kyle Cox" , "Levi Smuin" , "Levi Smuin" , "Lewis, John" , "McCoy, Charlene" , "McCoy, Tim" , "Nilles, Chris" , "O'Connell, David" , "Perry, Bud (Smith Bits)" , "Pickup, Marc" , "Revert, Scott" , "Robinson, Darin" , "Ryan Thomas" , "Shawn Moulton" , "Shelton, Shorty" , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis, Walton Home" , "Winkler, Matt" , "Zimmerman, Bill" ,**Date:** 1/13/2011 9:04 PM**Subject:** Rough Canyon Federal 30-1 Update

Drilling at 5293'.

Jack Magill
Wolverine Operating Company of Utah, LLC
Rough Canyon Federal 30-1
Rig (970) 361-3276

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JAN 19 2011

DIV. OF OIL, GAS & MINING

Carol Daniels - Rough Canyon Federal 30-1 Update *TIPS ROLE 5-32 43-039-50003*

From: "Jack Magill"
To: "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Bolding, Russell" , "Brock Pope"
" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins"
"Daniels, Carol" , "Denton, Derek" , "Dieste, Bobby" , "Foreman, Ron" , "George
Zamantakis" , "Hall, Denise" , "Harlan Wilkins" , "Harry Melnikoff" , "Hendricks,
Marvin" , "Howard, Art" , "Hutkinson, Clayton" , "Jeff Ainge" , "Jim Barry" , "Jimmy
Germon" , "Jones, Mark" , "Kenneth Schultz Jr" , "Kent Donner" , "Kulow, Kyle"
"Kyle Cox" , "Levi Smuin" , "Levi Smuin" , "Lewis, John" , "McCoy, Charlene"
"McCoy, Tim" , "Nilles, Chris" , "O'Connell, David" , "Perry, Bud (Smith Bits)" ,
"Pickup, Marc" , "Revert, Scott" , "Robinson, Darin" , "Ryan Thomas" , "Shawn
Moulton" , "Shelton, Shorty" , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross"
"Willis, Walton" , "Willis, Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"
Date: 1/14/2011 4:40 PM
Subject: Rough Canyon Federal 30-1 Update

Drilling ahead at 5362'

Jack Magill
Wolverine Rough Canyon Federal 30-1
970.361.3276

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Carol Daniels - Wolverine Rough Canyon Federal 30-1 Update

T195 ROIE 5-31 43-03950023

From: "Jack Magill"

To: "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Bolding, Russell" , "Brock Pope" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels, Carol" , "Denton, Derek" , "Dieste, Bobby" , "Foreman, Ron" , "George Zamantakis" , "Hall, Denise" , "Harlan Wilkins" , "Harry Melnikoff" , "Hendricks, Marvin" , "Howard, Art" , "Hutcinson, Clayton" , "Jeff Ainge" , "Jim Barry" , "Jimmy Germon" , "Jones, Mark" , "Kenneth Schultz Jr" , "Kent Donner" , "Kulow, Kyle" , "Kyle Cox" , "Levi Smuin" , "Levi Smuin" , "Lewis, John" , "McCoy, Charlene" , "McCoy, Tim" , "Nilles, Chris" , "O'Connell, David" , "Perry, Bud (Smith Bits)" , "Pickup, Marc" , "Revert, Scott" , "Robinson, Darin" , "Ryan Thomas" , "Shawn Moulton" , "Shelton, Shorty" , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis, Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"

Date: 1/17/2011 4:48 PM

Subject: Wolverine Rough Canyon Federal 30-1 Update

Drilled to 5550', TOH, bit at 420'.

1/17/2011 4:45 PM

Jack Magill

Wolverine Operating Company of Utah, LLC

Rough Canyon Federal 30-1

AFE 224 API 43-039-50003-00-00

Rig (970) 361-3276

boart@drillmail.net

No virus found in this message.

Checked by AVG - www.avg.com

Version: 10.0.1191 / Virus Database: 1435/3374 - Release Date: 01/11/11

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Page 1 of 1

Carol Daniels - Wolverine Rough Canyon Federal 30-1 Update *T/125 ROIES 32 43 03950003*

From: "Jack Magill"
To: "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Bolding, Russell" , "Brock Pope"
" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins"
" , "Daniels, Carol" , "Denton, Derek" , "Dieste, Bobby" , "Foreman, Ron" , "George
Zamantakis " , "Hall, Denise" , "Harlan Wilkins" , "Harry Melnikoff" , "Hendricks,
Marvin" , "Howard, Art" , "Hutcinson, Clayton" , "Jeff Ainge" , "Jim Barry" , "Jimmy
Germon" , "Jones, Mark" , "Kenneth Schultz Jr" , "Kent Donner" , "Kulow, Kyle" ,
"Kyle Cox" , "Levi Smuin" , "Levi Smuin" , "Lewis, John" , "McCoy, Charlene"
" , "McCoy, Tim" , "Nilles, Chris" , "O'Connell, David" , "Perry, Bud (Smith Bits)" ,
"Pickup, Marc" , "Revert, Scott" , "Robinson, Darin" , "Ryan Thomas" , "Shawn
Moulton" , "Shelton, Shorty" , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" ,
"Willis, Walton" , "Willis, Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"
Date: 1/19/2011 7:10 AM
Subject: Wolverine Rough Canyon Federal 30-1 Update

1/19/2011 7:06 AM

Drilling at 5618'

Jack Magill
Wolverine Operating Company of Utah, LLC
Rough Canyon Federal 30-1
Rig (970) 361-3276
boart@drillmail.net

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Carol Daniels - Rough Canyon Federal 30-1 Update

TIPS ROLE 5-32 43-039-50003

From: "Jack Magill"

To: "Allen, Geoff" , "Arthurs, Shane" , "Bolding, Russell" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels, Carol" , "Dieste, Bobby" , "Foreman, Ron" , "Hall, Denise" , "Harlan Wilkins" , "Harry Melnikoff" , "Hendricks, Marvin" , "Howard, Art" , "Hutcinson, Clayton" , "Jim Barry" , "Jimmy Germon" , "Jones, Mark" , "Kenneth Schultz Jr" , "Kent Donner" , "Kyle Cox" , "Levi Smuin" , "Levi Smuin" , "Lewis, John" , "McCoy, Charlene" , "McCoy, Tim" , "Nilles, Chris" , "Revert, Scott" , "Robinson, Darin" , "Ryan Thomas" , "Shawn Moulton" , "Shelton, Shorty" , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis, Walton Home" , "Winkler, Matt" , "Zimmerman, Bill" ,

Date: 1/21/2011 1:14 PM

Subject: Rough Canyon Federal 30-1 Update

1/21/2011 1:05 PM MST

Drilling at 5789'.

Jack Magill
Wolverine Operating Company of Utah, LLC
Rough Canyon Federal 30-1
Rig (970) 361-3276

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JAN 24 2011

DIV. OF OIL, GAS & MINING

Carol Daniels - Rough Canyon Federal 30-1 Update

TIPS ROLES-32 43-039-50003

From: "Jack Magill"**To:** "Jack Magill" , "Allen, Geoff" , "Bolding, Russell" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels, Carol" , "Dieste, Bobby" , "Foreman, Ron" , "Hall, Denise" , "Harlan Wilkins" , "Harry Melnikoff" , "Hendricks, Marvin" , "Howard, Art" , "Hutcinson, Clayton" , "Jim Barry" , "Jimmy Germon" , "Jones, Mark" , "Kenneth Schultz Jr" , "Kent Donner" , "Kyle Cox" , "Levi Smuin" , "Levi Smuin" , "Lewis, John" , "McCoy, Charlene" , "McCoy, Tim" , "Nilles, Chris" , "Revert, Scott" , "Robinson, Darin" , "Ryan Thomas" , "Shawn Moulton" , "Shelton, Shorty" , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis, Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"**Date:** 1/22/2011 6:14 AM**Subject:** Rough Canyon Federal 30-1 Update

1/22/2011 6:07 AM MST

Drill to 5846', survey, POOH for new bit.

Jack Magill
Wolverine Operating Company of Utah, LLC
Rough Canyon Federal 30-1
Rig (970) 361-3276

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JAN 24 2011

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CONFIDENTIAL

Carol Daniels - Rough Canyon Federal 30-1 Update *T195 ROIE 5-32 43-039-50003*

From: "Jack Magill"

To: "Jack Magill" , "Allen, Geoff" , "Bolding, Russell" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniels, Carol" , "Dieste, Bobby" , "Hendricks, Marvin" , "Howard, Art" , "Jim Barry" , "Jones, Mark" , "Kenneth Schultz Jr" , "Kent Donner" , "Kyle Cox" , "Levi Smuin" , "Levi Smuin" , "Lewis, John" , "McCoy, Charlene" , "McCoy, Tim" , "Revert, Scott" , "Robinson, Darin" , , "Tyler Ross" , "Willis, Walton" , "Willis, Walton Home"

Date: 1/23/2011 8:33 PM

Subject: Rough Canyon Federal 30-1 Update

1/23/2011 8:30 PM MST

Drilling at 5854'.

Jack Magill
Wolverine Operating Company of Utah, LLC
Rough Canyon Federal 30-1
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JAN 24 2011

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Carol Daniels - Rough Canyon Federal 30-1 Update *TMS RO/E S-32 43-039.50003*

From: "Jack Magill"

To: "Jack Magill" , "Allen, Geoff" , "Bolding, Russell" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniels, Carol" , "Dieste, Bobby" , "Hendricks, Marvin" , "Howard, Art" , "Jim Barry" , "Jones, Mark" , "Kenneth Schultz Jr" , "Kent Donner" , "Kyle Cox" , "Levi Smuin" , "Levi Smuin" , "Lewis, John" , "McCoy, Charlene" , "McCoy, Tim" , "Revert, Scott" , "Robinson, Darin" , "Willis, Walton" , "Willis, Walton Home"

Date: 1/24/2011 4:24 PM

Subject: Rough Canyon Federal 30-1 Update

1/24/2011 4:22 PM MST

Drilling at 5909'.

Jack Magill
Wolverine Operating Company of Utah, LLC
Rough Canyon Federal 30-1
Rig (970) 361-3276

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JAN 24 2011

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RECEIVED

JAN 24 2011

DIV. OF OIL, GAS & MINING

Carol Daniels - Wolverine Rough Canyon Federal 30-1 Update *T175 ROIE S-32*

43-039-5003

From: "Jack Magill"

To: "Jack Magill" , "Allen, Geoff" , "Bolding, Russell" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniels, Carol" , "Dieste, Bobby" , "Hendricks, Marvin" , "Howard, Art" , "Jim Barry" , "Jones, Mark" , "Kenneth Schultz Jr" , "Kent Donner" , "Kyle Cox" , "Levi Smuin" , "Levi Smuin" , "Lewis, John" , "McCoy, Charlene" , "McCoy, Tim" , "Revert, Scott" , "Robinson, Darin" , , "Willis, Walton" , "Willis, Walton Home" , "Ken Clare"

Date: 1/26/2011 3:44 PM

Subject: Wolverine Rough Canyon Federal 30-1 Update

1/26/2011 3:40 PM MST

Drilled to 5978, leaks in air string, POOH to turnaround point, GIH looking for air leaks.

Jack Magill

Wolverine Operating Company of Utah, LLC

Rough Canyon Federal 30-1

Rig (970) 361-3276

RECEIVED

JAN 26 2011

DIV. OF OIL, GAS & MINING

Carol Daniels - Wolverine Rough Canyon Federal 30-1 Update *T/2S ROIES-32 43-03250003*

From: "Jack Magill"

To: "Jack Magill" , "Allen, Geoff" , "Bolding, Russell" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniels, Carol" , "Dieste, Bobby" , "Hendricks, Marvin" , "Howard, Art" , "Jim Barry" , "Jones, Mark" , "Kenneth Schultz Jr" , "Kent Donner" , "Kyle Cox" , "Levi Smuin" , "Levi Smuin" , "Lewis, John" , "McCoy, Charlene" , "McCoy, Tim" , "Revert, Scott" , "Robinson, Darin" , "Willis, Walton" , "Willis, Walton Home"

Date: 1/25/2011 3:58 PM

Subject: Wolverine Rough Canyon Federal 30-1 Update

1/25/2011 3:54 PM MST

Drilling at 5948'.

Jack Magill
Wolverine Operating Company of Utah, LLC
Rough Canyon Federal 30-1
Rig (970) 361-3276

RECEIVED

JAN 26 2011

DIV. OF OIL, GAS & MINING

Carol Daniels - Wolverine Rough Canyon Federal 30-1 Update

THIS ROLE S-32 43039-50003

From: "ken Clare"
To: "Jack Magill" , "Allen, Geoff" , "Bolding, Russell" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniels, Carol" , "Dieste, Bobby" , "Hendricks, Marvin" , "Howard, Art" , "Jim Barry" , "Jones, Mark" , "Kenneth Schultz Jr" , "Kent Donner" , "Kyle Cox" , "Levi Smuin" , "Levi Smuin" , "Lewis, John" , "McCoy, Charlene" , "McCoy, Tim" , "Revert, Scott" , "Robinson, Darin" , , "Willis, Walton" , "Willis, Walton Home"
Date: 1/27/2011 3:31 PM
Subject: Wolverine Rough Canyon Federal 30-1 Update

1/27 /2011 3:30 PM MST

Drilling @ 6028'

Ken Clare
Wolverine Operating Company of Utah, LLC
Rough Canyon Federal 30-1
Rig (970) 361-3276

RECEIVED
JAN 27 2011
DIV. OF OIL, GAS & MINING

Carol Daniels - Wolverine Rough Canyon Federal 30-1 Update*T 175 R01W S-32 43039-5000.3***From:** "ken Clare"**To:** "Jack Magill" , "Allen, Geoff" , "Bolding, Russell" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schauggaard" , "Daniels, Carol" , "Dieste, Bobby" , "Hendricks, Marvin" , "Howard, Art" , "Jim Barry" , "Jones, Mark" , "Kenneth Schultz Jr" , "Kent Donner" , "Kyle Cox" , "Levi Smuin" , "Levi Smuin" , "Lewis, John" , "McCoy, Charlene" , "McCoy, Tim" , "Revert, Scott" , "Robinson, Darin" , , "Willis, Walton" , "Willis, Walton Home"**Date:** 1/28/2011 3:50 PM**Subject:** Wolverine Rough Canyon Federal 30-1 Update**CC:**

Drilling @ 6067'

Ken Clare

Wolverine Operating Company of Utah, LLC

Rough Canyon Federal 30-1

Rig (970) 361-3276

RECEIVED**JAN 28 2011**

DIV. OF OIL, GAS & MINING

Carol Daniels - RE: Wolverine Rough Canyon Federal 30-1 Update

*T 125 R01E 5-32 43-039-5 0003***From:** "ken Clare"**To:** "Allen, Geoff" , "Bolding, Russell" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniels, Carol" , "Dieste, Bobby" , "Hendricks, Marvin" , "Howard, Art" , "Jim Barry" , "Jones, Mark" , "Kenneth Schultz Jr" , "Kent Donner" , "Kyle Cox" , "Levi Smuin" , "Levi Smuin" , "Lewis, John" , "McCoy, Charlene" , "McCoy, Tim" , "Revert, Scott" , "Robinson, Darin" , , "Willis, Walton" , "Willis, Walton Home" ,**Date:** 1/29/2011 5:06 PM**Subject:** RE: Wolverine Rough Canyon Federal 30-1 Update

TOOH, N/U hydrill

Ken Clare

Wolverine Operating Company of Utah, LLC

Rough Canyon Federal 30-1

Rig (970) 361-3276

RECEIVED**JAN 29 2011**

DIV. OF OIL, GAS & MINING

Carol Daniels - Wolverine Rough Canyon Federal 30-1 Update

TIRS R01E5-32 43-039-50003

From: "ken Clare"
To: "Allen, Geoff" , "Bolding, Russell" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniels, Carol" , "Dieste, Bobby" , "Hendricks, Marvin" , "Howard, Art" , "Jim Barry" , "Jones, Mark" , "Kenneth Schultz Jr" , "Kent Donner" , "Kyle Cox" , "Levi Smuin" , "Levi Smuin" , "Lewis, John" , "McCoy, Charlene" , "McCoy, Tim" , "Revert, Scott" , "Robinson, Darin" , , "Willis, Walton" , "Willis, Walton Home"
Date: 1/30/2011 4:12 PM
Subject: Wolverine Rough Canyon Federal 30-1 Update

Tripping in depth 3954', functioned Hydrill & trained crew on BOP function & drill

From: ken Clare [mailto:boart@drillmail.net]
Sent: Saturday, January 29, 2011 5:03 PM
To: 'Allen, Geoff'; 'Bolding, Russell'; 'Chamberlain, Don'; 'Childers, Eli'; 'Chris Schaugaard'; 'Daniels, Carol'; 'Dieste, Bobby'; 'Hendricks, Marvin'; 'Howard, Art'; 'Jim Barry'; 'Jones, Mark'; 'Kenneth Schultz Jr'; 'Kent Donner'; 'Kyle Cox'; 'Levi Smuin'; 'Levi Smuin'; 'Lewis, John'; 'McCoy, Charlene'; 'McCoy, Tim'; 'Revert, Scott'; 'Robinson, Darin'; Stan_Andersen@blm.gov; 'Willis, Walton'; 'Willis, Walton Home'; boart@drillmail.net
Subject: RE: Wolverine Rough Canyon Federal 30-1 Update

TOOH, N/U hydrill
Ken Clare
Wolverine Operating Company of Utah, LLC
Rough Canyon Federal 30-1
Rig (970) 361-3276

RECEIVED

JAN 30 2011

DIV. OF OIL, GAS & MINING

Carol Daniels - Wolverine Rough Canyon Federal 30-1 Update

*T195 R0185-32 43-039-50003***From:** "ken Clare"**To:** "ken Clare" , "Allen, Geoff" , "Bolding, Russell" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniels, Carol" , "Dieste, Bobby" , "Hendricks, Marvin" , "Howard, Art" , "Jim Barry" , "Jones, Mark" , "Kenneth Schultz Jr" , "Kent Donner" , "Kyle Cox" , "Levi Smuin" , "Levi Smuin" , "Lewis, John" , "McCoy, Charlene" , "McCoy, Tim" , "Revert, Scott" , "Robinson, Darin" , , "Willis, Walton" , "Willis, Walton Home"**Date:** 1/31/2011 3:36 PM**Subject:** Wolverine Rough Canyon Federal 30-1 Update

Drilling @ 6138'

Ken Clare

Wolverine Operating Company of Utah, LLC

Rough Canyon Federal 30-1

Rig (970) 361-3276

RECEIVED**JAN 31 2011****DIV. OF OIL, GAS & MINING**

T 125 Role 5-32
43-039-50003

CONFIDENTIAL

From: "ken Clare" <boart@drillmail.net>
To: "ken Clare" <boart@drillmail.net>, "Allen, Geoff" <geoff.allen@fmcti...>
Date: 2/1/2011 3:51 PM
Subject: Wolverine Rough Canyon Federal 30-1 Update

Drilling @ 6204'
Ken Clare

Wolverine Operating Company of Utah, LLC

Rough Canyon Federal 30-1

Rig (970) 361-3276

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FEB 01 2011

DIV. OF OIL, GAS & MINING

Carol Daniels - Wolverine Rough Canyon Federal 30-1 Update

TIPS ROLES 32

43-039-50003

From: "ken Clare"

To: "ken Clare" , "Allen, Geoff" , "Bolding, Russell" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniels, Carol" , "Dieste, Bobby" , "Hendricks, Marvin" , "Howard, Art" , "Jim Barry" , "Jones, Mark" , "Kenneth Schultz Jr" , "Kent Donner" , "Kyle Cox" , "Levi Smuin" , "Levi Smuin" , "Lewis, John" , "McCoy, Charlene" , "McCoy, Tim" , "Revert, Scott" , "Robinson, Darin" , , "Willis, Walton" , "Willis, Walton Home"

Date: 2/2/2011 4:03 PM

Subject: Wolverine Rough Canyon Federal 30-1 Update

Drilling @ 6235 '

Ken Clare

Wolverine Operating Company of Utah, LLC

Rough Canyon Federal 30-1

Rig (970) 361-3276

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FEB 02 2011

DIV. OF OIL, GAS & MINING

CONFIDENTIAL

T175 ROIE 5-32 43-039-50003

From: "ken Clare" <boart@drillmail.net>
To: "ken Clare" <boart@drillmail.net>, "Allen, Geoff" <geoff.allen@fmcti...>
Date: 2/3/2011 4:06 PM
Subject: Wolverine Rough Canyon Federal 30-1 Update

Drilling @ 6304'

Ken Clare

Wolverine Operating Company of Utah, LLC

Rough Canyon Federal 30-1

Rig (970) 361-3276

RECEIVED
FEB 03 2011
DIV. OF OIL, GAS & MINING

T175 ROIE 5-32 43-039-5 0003

CONFIDENTIAL

From: "ken Clare" <boart@drillmail.net>
To: "ken Clare" <boart@drillmail.net>, "Allen, Geoff" <geoff.allen@fmcti...
Date: 2/4/2011 4:04 PM
Subject: Wolverine Rough Canyon Federal 30-1 Update

Drilling @ 6365' 100% Conglomoerate

Ken Clare

Wolverine Operating Company of Utah, LLC

Rough Canyon Federal 30-1

Rig (970) 361-3276

RECEIVED

FEB 04 2011

DIV. OF OIL, GAS & MINING

T 175 ROIE 5-32 43-039-5 0003

CONFIDENTIAL

From: "ken Clare" <boart@drillmail.net>
To: "ken Clare" <boart@drillmail.net>, "Allen, Geoff" <geoff.allen@fmcti...
Date: 2/5/2011 3:29 PM
Subject: Wolverine Rough Canyon Federal 30-1 Update

Drilled to 6395', TOO H for new bit, 100% Conglomerate

Ken Clare

Wolverine Operating Company of Utah, LLC

Rough Canyon Federal 30-1

Rig (970) 361-3276

RECEIVED

FEB 05 2011

DIV. OF OIL, GAS & MINING

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9																														
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-82536																														
		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:																														
		7. UNIT or CA AGREEMENT NAME:																														
1. TYPE OF WELL Oil Well		8. WELL NAME and NUMBER: ROUGH CANYON FED 30-1																														
2. NAME OF OPERATOR: WOLVERINE OPERATING COMPANY OF UTAH, LLC		9. API NUMBER: 43039500030000																														
3. ADDRESS OF OPERATOR: One Riverfront Plaza 55 Campau NW, Grand Rapids, MI, 49503		PHONE NUMBER: 616 458-1150 Ext																														
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0288 FNL 0452 FWL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWNW Section: 32 Township: 17.0S Range: 01.0E Meridian: S		9. FIELD and POOL or WILDCAT: WILDCAT																														
		COUNTY: SANPETE																														
		STATE: UTAH																														
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA																																
TYPE OF SUBMISSION <input type="checkbox"/> NOTICE OF INTENT Approximate date work will start: <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: <input type="checkbox"/> SPUD REPORT Date of Spud: <input checked="" type="checkbox"/> DRILLING REPORT Report Date: 2/22/2011	TYPE OF ACTION <table style="width: 100%; border: none;"> <tr> <td><input type="checkbox"/> ACIDIZE</td> <td><input type="checkbox"/> ALTER CASING</td> <td><input type="checkbox"/> CASING REPAIR</td> </tr> <tr> <td><input type="checkbox"/> CHANGE TO PREVIOUS PLANS</td> <td><input type="checkbox"/> CHANGE TUBING</td> <td><input type="checkbox"/> CHANGE WELL NAME</td> </tr> <tr> <td><input type="checkbox"/> CHANGE WELL STATUS</td> <td><input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS</td> <td><input type="checkbox"/> CONVERT WELL TYPE</td> </tr> <tr> <td><input type="checkbox"/> DEEPEN</td> <td><input type="checkbox"/> FRACTURE TREAT</td> <td><input type="checkbox"/> NEW CONSTRUCTION</td> </tr> <tr> <td><input type="checkbox"/> OPERATOR CHANGE</td> <td><input type="checkbox"/> PLUG AND ABANDON</td> <td><input type="checkbox"/> PLUG BACK</td> </tr> <tr> <td><input type="checkbox"/> PRODUCTION START OR RESUME</td> <td><input type="checkbox"/> RECLAMATION OF WELL SITE</td> <td><input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION</td> </tr> <tr> <td><input type="checkbox"/> REPERFORATE CURRENT FORMATION</td> <td><input type="checkbox"/> SIDETRACK TO REPAIR WELL</td> <td><input type="checkbox"/> TEMPORARY ABANDON</td> </tr> <tr> <td><input type="checkbox"/> TUBING REPAIR</td> <td><input type="checkbox"/> VENT OR FLARE</td> <td><input type="checkbox"/> WATER DISPOSAL</td> </tr> <tr> <td><input type="checkbox"/> WATER SHUTOFF</td> <td><input type="checkbox"/> SI TA STATUS EXTENSION</td> <td><input type="checkbox"/> APD EXTENSION</td> </tr> <tr> <td><input type="checkbox"/> WILDCAT WELL DETERMINATION</td> <td><input type="checkbox"/> OTHER</td> <td>OTHER: <input style="width: 100px;" type="text"/></td> </tr> </table>		<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>
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12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. Please refer to attached document for details of December 2010 through January 2011 drilling.																																
Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY																																
NAME (PLEASE PRINT) Helene Bardolph		PHONE NUMBER 616 458-1150																														
SIGNATURE N/A		TITLE Engineering Administrative Assistant																														
		DATE 2/22/2011																														

Subject: Wolverine Operating Company of Utah, LLC

Rough Canyon Federal 30-1
NW¼ NW¼ Sec 32-T17S-R1E surface location
NE¼ SE¼ Sec 30-T17S-R1E BHL
Sanpete County, Utah.

December 2010 Drilling Update

30 November 2010

Depth 3829' DF, 22" x ½" wall @ 1421' GL. Wash fill from 3814 to 3826. MW – 10, Vis. – 75, FL – 12. Surveys: none.

1 December 2010

Depth 3829' DF, 22" x ½" wall @ 1421' GL. C&C, wash down and up, C&C. MW – 10.2, Vis. – 67, FL – 10.2. Surveys: none.

2 December 2010

Depth 3829' DF, 22" x ½" wall @ 1421' GL. C&C, rebuild mud volume, C&C. MW – 9.5, Vis. – 68, FL – 9.2. Surveys: none.

3 December 2010

Depth 3829' DF, 22" x ½" wall @ 1421' GL. C&C, wash & ream, C&C. MW – 9.2, Vis. – 65, FL – 9. Surveys: none.

4 December 2010

Depth 3829' DF, 22" x ½" wall @ 1421' GL. C&C, POOH. MW – 9.4, Vis. – 63, FL – 7. Surveys: none.

5 December 2010

Depth 3829' DF, 22" x ½" wall @ 1421' GL. LD BHA, RU to run casing, run 13-3/8 casing with 1.9" parasite string. MW – 9.3, Vis. – 62, FL – 6.5. Surveys: none.

6 December 2010

Depth 3829' DF, 22" x ½" wall @ 1421' GL. Run 13-3/8 casing, tag at 3770', land at 3769', cement w/ Schlumberger, diagnose casing issue. MW – 9.1, Vis. – 53, FL – 14. Surveys: none.

7 December 2010

Depth 3829' DF, 22" x ½" wall @ 1421' GL. Diagnose casing issue, wait on wireline truck, ran CCL/temp survey, leak in joint from 752 to 798, ran CCL/CBL, TOC @ 2710', wait on gage ring, ring cut too large, drift w/ 12.1" gage ring, casing open to cementing plug, wait on Boart camera truck. MW – 9, Vis. – 54, FL – 10. Surveys: none.

8 December 2010

Depth 3829' DF, 13¾ @ 3769' DF. Wait on tools, cut off casing above slips, RU false rotary table, GIH w/ drill string to 900', evacuate hole, POOH, GIH w/ camera, fluid level at 650', POOH w/ camera, GIH w/ drill string to 1100', evacuate hole, POOH w/ drill string, GIH w/ camera, examine casing from 752' to 798', ok, POOH w/ camera, retool to investigate for deeper leak. MW – 9, Vis. – 55, FL – 9.5. Surveys: none.

9 December 2010

Depth 3829' DF, 13¾ @ 3769' DF. Make up stands of 5½ DP, wait on spinner survey tools, run spinner survey, leak located at air injection sub at 2483', pump water down parasite string, set up casing alignment assy. MW – 9, Vis. – 32, FL – 13.4. Surveys: none.

10 December 2010

Depth 3829' DF, 13³/₈ @ 3769' DF. Prep to run csg alignment assy, GIH w/ 12¹/₄" OD csg alignment assy, space out over air sub interval, hook up to hang both DP and casing from block/top drive assy, pull csg slips, found csg parted, slack off until taking weight, set slips on csg, POOH w/ csg alignment assy, RU tremmie pipe, GIH down annulus w/ tremmie pipe to 2360'. MW – 9, Vis. – 32, FL – 13.4. Surveys: none.

11 December 2010

Depth 3829' DF, 13³/₈ @ 3769' DF. GIH w/ tremmie pipe to 2770', RU cementer, mix & pump 270 cf of 15.6 ppg cement, pull tremmie pipe to 2250', WOC, tag cmt at 2365', mix & pump 388 cf of 15.6 ppg cmt, pull tremmie pipe to 1770', WOC, tag cmt at 2140', tremmie pipe plugged, pull up tremmie pipe and attempt to clear. MW – 8.9, Vis. – 67, FL – 10.8. Surveys: none.

12 December 2010

Depth 3829' DF, 13³/₈ @ 3769' DF. POOH w/ tremmie pipe, found 40' plugged w/ cmt, GIH w/ tremmie pipe, tag at 2105', mix and pump 333 cf of 15.3 ppg cmt, POOH w/ tremmie pipe to 1500', WOC, GIH w/ tremmie pipe, tag cmt at 1870', mix & pump 322 cf of 15.3 ppg cmt, POOH w/ tremmie pipe to 1270', WOC, GIH to 1670'. MW – 8.9, Vis. – 62, FL – 9.8. Surveys: none.2

13 December 2010

Depth 3829' DF, 13³/₈ @ 3769' DF. Tag cmt at 1700' w/ tremmie pipe, cement w/ 333 cf of 15.6 ppg cmt, POOH w/ tremmie pipe to 1100', WOC, GIH w/ tremmie pipe to tag @ 1370', cement w/ 1071 cf of 15.6 ppg cmt, POOH w/ tremmie pipe, WOC, GIH w/ tremmie pipe, tag cmt @ 150', cement w/ 187 cf of 15.3 ppg cmt, cement to surface WOC. MW – 9.1, Vis. – 66, FL – 10.7. Surveys: none.

14 December 2010

Depth 3829' DF, 13³/₈ @ 3769' DF. WOC, cut off 13³/₈ csg, break down csg alignment assy, PU 12¹/₄ bit and scraper, GIH, work through air inj sub, POOH, LD scraper, GIH w/ bit. MW – 9.2, Vis. – 41, FL – 12.7. Surveys: none.

15 December 2010

Depth 3829' DF, 13³/₈ @ 3769' DF. GIH, tag @ 3707', C&C, POOH, PU Howco squeeze pkr, GIH w/ pkr, pkr set down at 830', POOH, left pkr in hole, check pkr performance, no seal, RU on parasite string. MW – 9, Vis. – 34, FL – 16.2. Surveys: none.

16 December 2010

Depth 3829' DF, 13³/₈ @ 3769' DF. Check csg leak, POOH w/ DP, fill csg, pump 5 bw dn parasite string, cement down parasite string, pump 150 sx of 15.8 ppg class "G" cement, flush w/ 2 bw, WOC, make up and rack back stands of drill pipe. MW – 8.9, Vis. – 49, FL – 11.6. Surveys: none.

17 December 2010

Depth 3829' DF, 13³/₈ @ 3769' DF. MU stands of DP, check parasite string, plugged w/ cmt, GIH, circ at 801', drill up pkr to 831', pkr released and went down hole, wash to 895', POOH, PU stands of dp, GIH w/ bit, tag plug @ 2465', drill pkr & cmt to 2582', wash to 2665', fill csg, hole standing full, pooh. MW – 8.8, Vis. – 42, FL – 11.6. Surveys: none.

18 December 2010

Depth 3829' DF, 13³/₈ @ 3769' DF. POOH, PU stands of dp, tag at 3702', circulate, drill to 3737', hole standing full, drill cmt to 3767', empty mud tank, build mud, C&C, drill to 3771, starting to lose fluid, POOH, static fluid level at 886', stand back stands of dp, GIH. MW – 8.8, Vis. – 50, FL – 11.6. Surveys: none.

19 December 2010

Depth 3829' DF, 13³/₈ @ 3769' DF. C&C, to 3777', bit plugging, POOH, bit plugged, clean out bit, fluid level at 1201', GIH, ream to 3779', bit plugged, POOH. MW – 8.8, Vis. – 47, FL – 11. Surveys: none.

20 December 2010

Depth 3829' DF, 13³/₈ @ 3769' DF. POOH, clean bit, MU BHA, GIH, ream to 3782', bit plugged, POOH. MW – 8.8, Vis. – 58, FL – 8.6. Surveys: none.

21 December 2010

Depth 3829' DF, 13³/₈ @ 3769' DF. Unplug shock sub, LD shock sub & IBS, GIH, ream to 3818', . MW – 8.8, Vis. – 47, FL – 8.8. Surveys: none.

22 December 2010

Depth 3886' DF, 13³/₈ @ 3769' DF. Ream to 3829', drill. MW – 8.7, Vis. – 77, FL – 9.2. Surveys: none.

23 December 2010

Depth 3981' DF, 13³/₈ @ 3769' DF. Drill & survey. MW – 8.7, Vis. – 64, FL – 8.6. Surveys: 6° @ 3840'.

24 December 2010

Depth 4065' DF, 13³/₈ @ 3769' DF. Drill & survey. MW – 8.9, Vis. – 60, FL – 8.8. Surveys: 6° @ 3940'.

25 December 2010

Depth 4119' DF, 13³/₈ @ 3769' DF. Drill & survey. MW – 9, Vis. – 65, FL – 8.7. Surveys: 6° @ 4040'.

26 December 2010

Depth 4163' DF, 13³/₈ @ 3769' DF. Drill, C&C, POOH. MW –9, Vis. – 73, FL – 9.5. Surveys: none.

27 December 2010

Depth 4213' DF, 13³/₈ @ 3769' DF. PU new bit, inspect BHA, GIH, drill. MW –9, Vis. – 60, FL – 9. Surveys: none.

28 December 2010

Depth 4304' DF, 13³/₈ @ 3769' DF. Drill & survey. MW – 9, Vis. – 58, FL – 10. Surveys: 6° @ 4200'.

29 December 2010

Depth 4328' DF, 13³/₈ @ 3769' DF. Drill, C&C, POOH, PU new bit, GIH. MW – 8.9, Vis. – 55, FL – 9.5. Surveys: none.

30 December 2010

Depth 4398' DF, 13³/₈ @ 3769' DF. GIH, drill & survey. MW – 9, Vis. – 56, FL – 9.5. Surveys: 6° @ 4330'.

31 December 2010

Depth 4495' DF, 13³/₈ @ 3769' DF. Drill. MW –9, Vis. – 53, FL – 9.5. Surveys: none.

January 2011 – Drilling Summary

Wolverine Operating Company of Utah, LLC
Rough Canyon Federal 30-1
NW¼ NW¼ Sec 32-T17S-R1E surface location
Sanpete County, Utah

1 January 2011

Depth 4560' DF, 13³/₈ @ 3769' DF. Drill & survey. MW – 9, Vis. – 56, FL – 9.5. Surveys: 5.5° @ 4431'.

2 January 2011

Depth 4617' DF, 13³/₈ @ 3769' DF. Drill & survey. MW – 9, Vis. – 54, FL – 9. Surveys: 6° @ 4532'.

3 January 2011

Depth 4627' DF, 13³/₈ @ 3769' DF. Drill, POOH, PU new bit, GIH. MW – 9, Vis. – 60, FL – 9.5. Surveys: none

4 January 2011

Depth 4707' DF, 13³/₈ @ 3769' DF. Drill & survey. MW – 9, Vis. – 60, FL – 9.5. Surveys: 6° @ 4615'.

5 January 2011

Depth 4785' DF, 13³/₈ @ 3769' DF. Drill & survey. MW – 9, Vis. – 56, FL – 9.4. Surveys: 5.5° @ 4700'.

6 January 2011

Depth 4861' DF, 13³/₈ @ 3769' DF. Drill & circulate. MW – 9, Vis. – 57, FL – 8.8. Surveys: none.

7 January 2011

Depth 4926' DF, 13³/₈ @ 3769' DF. Drill & survey. MW – 8.9, Vis. – 59, FL – 8.6. Surveys: 5.5° @ 4800'.

8 January 2011

Depth 5015' DF, 13³/₈ @ 3769' DF. Drill & survey. MW – 9.1, Vis. – 56, FL – 9. Surveys: 5.75° @ 4906'.

9 January 2011

Depth 5093' DF, 13³/₈ @ 3769' DF. Drill & survey, TFNB. MW – 9.2, Vis. – 55, FL – 8.8. Surveys: 6° @ 5040'.

10 January 2011

Depth 5118' DF, 13³/₈ @ 3769' DF. TFNB, drill. MW – 9.3, Vis. – 40, FL – 8.8. Surveys: none

11 January 2011

Depth 5192' DF, 13³/₈ @ 3769' DF. Drill. MW – 9.2, Vis. – 53, FL – 8.4. Surveys: none.

12 January 2011

Depth 5207' DF, 13³/₈ @ 3769' DF. Drill, TFNB. MW –9.5, Vis. – 56, FL – 8. Surveys: none.

13 January 2011

Depth 5245' DF, 13³/₈ @ 3769' DF. TFNB, drill & survey. MW – 9.1, Vis. – 55, FL – 9. Surveys: 5° @ 5154'.

14 January 2011

Depth 5320' DF, 13³/₈ @ 3769' DF. Drill & survey. MW –9.2, Vis. – 52, FL – 9.4. Surveys: 5.5° @ 5260'.

15 January 2011

Depth 5420' DF, 13³/₈ @ 3769' DF. Drill. MW – 9.3, Vis. – 58, FL – 9.4. Surveys: none.

16 January 2011

Depth 5517' DF, 13³/₈ @ 3769' DF. Drill & survey. MW – 9.3, Vis. – 61, FL – 8.4. Surveys: 6° @ 5367'.

17 January 2011

Depth 5550' DF, 13³/₈ @ 3769' DF. Drill, POOH for leaks in air string. MW – 9.3, Vis. – 70, FL – 9.2. Surveys: none

18 January 2011

Depth 5550' DF, 13³/₈ @ 3769' DF. POOH looking for leaks in air string, replace bit, roller reamer & blade reamer, GIH. MW – 8.9, Vis. – not reported, FL – 11.9. Surveys: none.

19 January 2011

Depth 5618' DF, 13³/₈ @ 3769' DF. GIH, circ. to bottom, drill, survey. MW –8.9, Vis. – 52, FL – 10.8. Surveys: none.

20 January 2011

Depth 5690' DF, 13³/₈ @ 3769' DF. Survey, drill, C&C, drill. MW – 8.9, Vis. – 52, FL – 10.8. Surveys: 6° @ 5560'.

21 January 2011

Depth 5761' DF, 13³/₈ @ 3769' DF. C&C, drill C&C, drill. MW –9, Vis. – 50, FL – 11.2. Surveys: none.

22 January 2011

Depth 5846' DF, 13³/₈ @ 3769' DF. Drill, survey, POOH. MW – 9, Vis. – 52, FL – 9.6. Surveys: 6° @ 5720'.

23 January 2011

Depth 5846' DF, 13³/₈ @ 3769' DF. POOH, install new bit, GIH. MW – 9, Vis. – 52, FL – 9.6. Surveys: none.

24 January 2011

Depth 5883' DF, 13 $\frac{3}{8}$ @ 3769' DF. GIH, C&C, drill. MW – 9, Vis. – 56, FL – 12.5. Surveys: none.

25 January 2011

Depth 5938' DF, 13 $\frac{3}{8}$ @ 3769' DF. Drill, rig repair, drill, POOH. MW –9, Vis. – 56, FL – 11.6. Surveys: none.

26 January 2011

Depth 5976' DF, 13 $\frac{3}{8}$ @ 3769' DF. GIH, C&C, POOH, C&C, GIH, drill & survey. MW – 9, Vis. – 63, FL – 10.5. Surveys: none.

27 January 2011

Depth 6000' DF, 13 $\frac{3}{8}$ @ 3769' DF. Survey, drill. MW –9, Vis. – 62, FL – 10.5. Surveys: 6° @ 5915'.

28 January 2011

Depth 6051' DF, 13 $\frac{3}{8}$ @ 3769' DF. Drill, POOH. MW –9, Vis. – 61, FL – 10.5. Surveys: none.

29 January 2011

Depth 6066' DF, 13 $\frac{3}{8}$ @ 3769' DF. Trip for leaks in air string, drill, trip for leaks in air string. MW – 9, Vis. – 61, FL – 10.5. Surveys: none.

30 January 2011

Depth 6066' DF, 13 $\frac{3}{8}$ @ 3769' DF. POOH, NU Hydril & rotating hd, GIH. MW – 9, Vis. – 61, FL – 10.5. Surveys: none.

31 January 2011

Depth 6098' DF, 13 $\frac{3}{8}$ @ 3769' DF. GIH, drill. MW – 9.1, Vis. – 63, FL – 10.5. Surveys: none.

Carol Daniels - Rough Canyon Federal 30-1 Update *T179 R01E5-32 43 0395003*

From: "Wolverine Supervisor"

To: "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels, Carol" , "De la Torre, Juan C" , "Dennis" , "Denton, Derek" , "Dieste, Bobby" , "Doucet, Dustin" , "Dustin Dunning" , "Foreman, Ron" , "George Zamantakis" , "Hall, Denise" , "Hammell, Hank" , "Harry Melnikoff" , "Hendricks, Marvin" , "Hutcinson, Clayton" , "Jim Barry" , "Jimmy Germon" , "Jones, Mark" , "KC Schultz" , "Kent Donner" , "Kulow, Kyle" , "Kyle Cox" , "LaDee Roundy" , "Larimore, Mark" , "Lewis, John" , "Martin Pete" , "Marvin Hendricks" , "Matt Harmon" , "McCoy, Charlene" , "McCoy, Tim" , "Nilles, Chris" , "O'Connell, David" , "Perry, Bud (Smith Bits)" , "Pickup, Marc" , "Rees, John M" , "Revert, Scott" , "Robinson, Darin" , "Ryan Thomas" , "Shaun Burns" , "Shawn Moulton" , "Shelton, Shorty" , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis, Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"

Date: 2/20/2011 9:34 AM

Subject: Rough Canyon Federal 30-1 Update

2/20/2011 9:30 AM

Rig repair, not drilling

Bill Donovan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rough Canyon Federal 30-1, AFE 224
Rig (970) 361-3276
Cell (720) 351-7470
boart@drillmail.net

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FEB 22 2011

DIV. OF OIL, GAS & MINING

Carol Daniels - Rough Canyon Federal 30-1 Update*T IRS ROLE 5-32 4303950003***From:** "Wolverine Supervisor"**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels, Carol" , "De la Torre, Juan C" , "Dennis" , "Denton, Derek" , "Dieste, Bobby" , "Doucet, Dustin" , "Dustin Dunning" , "Foreman, Ron" , "George Zamantakis" , "Hall, Denise" , "Hammell, Hank" , "Harry Melnikoff" , "Hendricks, Marvin" , "Hutcinson, Clayton" , "Jim Barry" , "Jimmy Germon" , "Jones, Mark" , "KC Schultz" , "Kent Donner" , "Kulow, Kyle" , "Kyle Cox" , "LaDee Roundy" , "Larimore, Mark" , "Lewis, John" , "Martin Pete" , "Marvin Hendricks" , "Matt Harmon" , "McCoy, Charlene" , "McCoy, Tim" , "Nilles, Chris" , "O'Connell, David" , "Perry, Bud (Smith Bits)" , "Pickup, Marc" , "Rees, John M" , "Revert, Scott" , "Robinson, Darin" , "Ryan Thomas" , "Senda Serrano" , "Shaun Burns" , "Shawn Moulton" , "Shelton, Shorty" , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis, Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"**Date:** 2/22/2011 8:38 AM**Subject:** Rough Canyon Federal 30-1 Update

2/22/2011 8:35 AM

Rig repair

Expect to be drilling later this week

Bill Donovan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rough Canyon Federal 30-1, AFE 224
Rig (970) 361-3276
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FEB 22 2011

DIV. OF OIL, GAS & MINING

Carol Daniels - Rough Canyon Federal 30-1 update

T 175 POLE 5-32 430395 0003

From: "Wolverine Supervisor"

To: "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels, Carol" , "De la Torre, Juan C" , "Dennis" , "Denton, Derek" , "Dieste, Bobby" , "Doucet, Dustin" , "Dustin Dunning" , "Foreman, Ron" , "George Zamantakis" , "Hall, Denise" , "Hammell, Hank" , "Harry Melnikoff" , "Hendricks, Marvin" , "Hutcinson, Clayton" , "Jim Barry" , "Jimmy Germon" , "Jones, Mark" , "KC Schultz" , "Kent Donner" , "Kulow, Kyle" , "Kyle Cox" , "LaDee Roundy" , "Larimore, Mark" , "Lewis, John" , "Martin Pete" , "Marvin Hendricks" , "Matt Harmon" , "McCoy, Charlene" , "McCoy, Tim" , "Nilles, Chris" , "O'Connell, David" , "Perry, Bud (Smith Bits)" , "Pickup, Marc" , "Rees, John M" , "Revert, Scott" , "Robinson, Darin" , "Ryan Thomas" , "Senda Serrano" , "Shaun Burns" , "Shawn Moulton" , "Shelton, Shorty" , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis, Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"

Date: 2/23/2011 10:50 AM

Subject: Rough Canyon Federal 30-1 update

CC: ""Hendricks, Marvin"" , "Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home""

2/23/2011 10:47 AM

Rig Repair

Bill Donovan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rough Canyon Federal 30-1, AFE 224
Rig (970) 361-3276
Cell (720) 351-7470
boart@drillmail.net

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FEB 23 2011

DIV. OF OIL, GAS & MINING

CONFIDENTIAL

T/175 ROIE S-32 API # 43 039 50003

From: "Wolverine Supervisor" <boart@drillmail.net>
To: "Ainge, Jeff" <jainge@varelintl.com>, "Allen, Geoff" <geoff.allen@fmcti....>
Date: 2/24/2011 6:45 AM
Subject: Rough Canyon Federal 30-1 update

CC: "Knight, Randy" <randy_knight@blm.gov>
2/24/2011 6:42 AM

Rig repair

Bill Donovan

Drilling Supervisor

Wolverine Gas and Oil Company of Utah, LLC

Rough Canyon Federal 30-1, AFE 224

Rig (970) 361-3276

Cell (720) 351-7470

boart@drillmail.net

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DIV. OF OIL, GAS & MINING

Carol Daniels - Rough Canyon Federal 30-1 Update*TIPS ROLE 5-32 4303950003***From:** "Wolverine Supervisor"**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels, Carol" , "De la Torre, Juan C" , "Dennis" , "Denton, Derek" , "Dieste, Bobby" , "Doucet, Dustin" , "Dustin Dunning" , "Foreman, Ron" , "George Zamantakis" , "Hall, Denise" , "Hammell, Hank" , "Harry Melnikoff" , "Hendricks, Marvin" , "Hutcinson, Clayton" , "Jim Barry" , "Jimmy Germon" , "Jones, Mark" , "KC Schultz" , "Kent Donner" , "Kulow, Kyle" , "Kyle Cox" , "LaDee Roundy" , "Larimore, Mark" , "Lewis, John" , "Martin Pete" , "Marvin Hendricks" , "Matt Harmon" , "McCoy, Charlene" , "McCoy, Tim" , "Nilles, Chris" , "O'Connell, David" , "Perry, Bud (Smith Bits)" , "Pickup, Marc" , "Rees, John M" , "Revert, Scott" , "Robinson, Darin" , "Ryan Thomas" , "Senda Serrano" , "Shaun Burns" , "Shawn Moulton" , "Shelton, Shorty" , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis, Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"**Date:** 2/25/2011 7:25 AM**Subject:** Rough Canyon Federal 30-1 Update**CC:** "Knight, Randy"

2/25/2011 7:21 AM

Rig repair

Bill Donovan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rough Canyon Federal 30-1, AFE 224
Rig (970) 361-3276
Cell (720) 351-7470
boart@drillmail.net

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FEB 28 2011

DIV. OF OIL, GAS & MINING

Carol Daniels - Rough Canyon Federal 30-1 Update*TIPS ROIE 5-32 4303950003***From:** "Wolverine Supervisor"**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels, Carol" , "De la Torre, Juan C" , "Dennis" , "Denton, Derek" , "Dieste, Bobby" , "Doucet, Dustin" , "Dustin Dunning" , "Foreman, Ron" , "George Zamantakis" , "Hall, Denise" , "Hammell, Hank" , "Harry Melnikoff" , "Hendricks, Marvin" , "Hutcinson, Clayton" , "Jim Barry" , "Jimmy Germon" , "Jones, Mark" , "KC Schultz" , "Kent Donner" , "Kulow, Kyle" , "Kyle Cox" , "LaDee Roundy" , "Larimore, Mark" , "Lewis, John" , "Martin Pete" , "Marvin Hendricks" , "Matt Harmon" , "McCoy, Charlene" , "McCoy, Tim" , "Nilles, Chris" , "O'Connell, David" , "Perry, Bud (Smith Bits)" , "Pickup, Marc" , "Rees, John M" , "Revert, Scott" , "Robinson, Darin" , "Ryan Thomas" , "Senda Serrano" , "Shaun Burns" , "Shawn Moulton" , "Shelton, Shorty" , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis, Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"**Date:** 2/26/2011 8:12 AM**Subject:** Rough Canyon Federal 30-1 Update**CC:** "Knight, Randy"

2/26/2011 8:10 AM

Rig repair

Bill Donovan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
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FEB 28 2011

DIV. OF OIL, GAS & MINING

Carol Daniels - Rough Canyon Federal 30-1 Update*TIPS ROLE 5-32 43.03950003***From:** "Wolverine Supervisor"**To:** "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" , "Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels, Carol" , "De la Torre, Juan C" , "Dennis" , "Denton, Derek" , "Dieste, Bobby" , "Doucet, Dustin" , "Dustin Dunning" , "Foreman, Ron" , "George Zamantakis" , "Hall, Denise" , "Hammell, Hank" , "Harry Melnikoff" , "Hendricks, Marvin" , "Hutkinson, Clayton" , "Jim Barry" , "Jimmy Germon" , "Jones, Mark" , "KC Schultz" , "Kent Donner" , "Kulow, Kyle" , "Kyle Cox" , "LaDee Roundy" , "Larimore, Mark" , "Lewis, John" , "Martin Pete" , "Marvin Hendricks" , "Matt Harmon" , "McCoy, Charlene" , "McCoy, Tim" , "Nilles, Chris" , "O'Connell, David" , "Perry, Bud (Smith Bits)" , "Pickup, Marc" , "Rees, John M" , "Revert, Scott" , "Robinson, Darin" , "Ryan Thomas" , "Senda Serrano" , "Shaun Burns" , "Shawn Moulton" , "Shelton, Shorty" , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis, Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"**Date:** 2/27/2011 7:37 AM**Subject:** Rough Canyon Federal 30-1 Update**CC:** "Knight, Randy"

2/27/2011 7:33 AM

Rig repair.

TOH to inspect drill string.

Bill Donovan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rough Canyon Federal 30-1, AFE 224
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DIV. OF OIL, GAS & MINING

Carol Daniels - Rough Canyon Federal 30-1 Update

TIPS ROLE 5-32 43 03950003

From: "Wolverine Supervisor"
To: "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,
"Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,
Carol" , "De la Torre, Juan C" , "Dennis" , "Denton, Derek" , "Dieste, Bobby" , "Doucet,
Dustin" , "Dustin Dunning" , "Foreman, Ron" , "George Zamantakis" , "Hall, Denise" ,
"Hammell, Hank" , "Harry Melnikoff" , "Hendricks, Marvin" , "Hutcinson, Clayton" , "Jim
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"Kyle Cox" , "LaDee Roundy" , "Larimore, Mark" , "Lewis, John" , "Martin Pete" , "Marvin
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Moulton" , "Shelton, Shorty" , , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis,
Walton" , "Willis, Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"
Date: 2/28/2011 9:59 AM
Subject: Rough Canyon Federal 30-1 Update
CC: "Knight, Randy"

2/28/2011 9:55 AM

Rig repair

Bill Donovan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
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Page 1 of 1

Carol Daniels - Rough Canyon Federal 30-1 Update

TIPS ROLE 5-32
43-039-5 0003

From: "Wolverine Supervisor"
To: "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope " ,
"Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,
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Scott" , "Robinson, Darin" , "Ryan Thomas" , "Senda Serrano" , "Shaun Burns" , "Shawn
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Walton" , "Willis, Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"
Date: 3/7/2011 6:58 AM
Subject: Rough Canyon Federal 30-1 Update
CC: "Knight, Randy"

3/7/2011 6:54 AM

Demobbing Boart LK700 Rig. Will redress pad and then mobilize Patt 304 about early next week.

Tom Zupan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rig (970) 361-3276
Cell (970) 314-8219

wolvexpl@drillmail.net

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MAR 07 2011

DIV. OF OIL, GAS & MINING

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-82536
1. TYPE OF WELL Oil Well		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
2. NAME OF OPERATOR: WOLVERINE OPERATING COMPANY OF UTAH, LLC		7. UNIT or CA AGREEMENT NAME:
3. ADDRESS OF OPERATOR: One Riverfront Plaza 55 Campau NW, Grand Rapids, MI, 49503		8. WELL NAME and NUMBER: ROUGH CANYON FED 30-1
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0288 FNL 0452 FWL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWNW Section: 32 Township: 17.0S Range: 01.0E Meridian: S		9. API NUMBER: 43039500030000
PHONE NUMBER: 616 458-1150 Ext		9. FIELD and POOL or WILDCAT: WILDCAT
COUNTY: SANPETE		STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/>
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:			
<input type="checkbox"/> SPUD REPORT Date of Spud:			
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 3/11/2011			

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.
 Please see attached file for February 2011 drilling update.

Accepted by the

Utah Division of

Oil, Gas and Mining

FOR RECORD ONLY

NAME (PLEASE PRINT) Helene Bardolph	PHONE NUMBER 616 458-1150	TITLE Engineering Administrative Assistant
SIGNATURE N/A	DATE 3/11/2011	

Wolverine Operating Company of Utah, LLC
Rough Canyon Federal 30-1
NW¼ NW¼ Sec 32-T17S-R1E surface location
NE¼ SE¼ Sec 30-T17S-R1E Projected BHL
Sanpete County, Utah

1 February 2011

Depth 6174' DF, 13³/₈ @ 3769' DF. Drill. MW –9.1, Vis. – 54, FL – 10.4. Surveys: none.

2 February 2011

Depth 6228' DF, 13³/₈ @ 3769' DF. Drill & survey. MW – 9.1, Vis. – 57, FL – 10.2. Surveys: 6° @ 6150'.

3 February 2011

Depth 6271' DF, 13³/₈ @ 3769' DF. Drill. MW –9.1, Vis. – 52, FL – 10.2. Surveys: none.

4 February 2011

Depth 6338' DF, 13³/₈ @ 3769' DF. Drill. MW –9.1, Vis. – 56, FL – 10.5. Surveys: none.

5 February 2011

Depth 6395' DF, 13³/₈ @ 3769' DF. Drill, POOH. MW – 9.2, Vis. – 55, FL – 10.5. Surveys: none.

6 February 2011

Depth 6395' DF, 13³/₈ @ 3769' DF. POOH, slip drilling line, change bit & roller reamers, GIH. MW – 9, Vis. – 61, FL – 10.5. Surveys: none.

7 February 2011

Depth 6442' DF, 13³/₈ @ 3769' DF. GIH, drill. MW – 9.2, Vis. – 55, FL – 10.5. Surveys: none.

8 February 2011

Depth 6491' DF, 13³/₈ @ 3769' DF. Drill. MW –9.3, Vis. – 56, FL – 8.4. Surveys: none.

9 February 2011

Depth 6502' DF, 13³/₈ @ 3769' DF. Drill, C&C, run survey, tool stuck, pull survey line off survey tool, POOH w/ bit, survey tool left in hole, change bit, GIH. MW – 9.2, Vis. – 54, FL – 8.6. Surveys: none.

10 February 2011

Depth 6502' DF, 13³/₈ @ 3769' DF. Inspect DC's looking for Totco tool, GIH, with bit depth at 2395' dropped block to floor, wait on orders. MW –9.2, Vis. – 57, FL – 8.5. Surveys: none.

11-16 February 2011

Depth 6502' DF, 13³/₈ @ 3769' DF. Investigate problems that resulted in dropped block. MW –9.2, Vis. – 57, FL – 8.5. Surveys: none.

17-22 February 2011

Depth 6502' DF, 13³/₈ @ 3769' DF. Investigate problems that resulted in dropped block. MW –9.2, Vis. – 57, FL – 8.5. Surveys: none.

23 February – 1 March 2011

Depth 6502' DF, 13³/₈ @ 3769' DF. Investigate problems that resulted in dropped block, rig repair.

MW –9.2, Vis. – 57, FL – 8.5. Surveys: none.

Carol Daniels - Rough Canyon Federal 30-1 Update*TIPS ROLE S-32
43-039-50003*

From: "Wolverine Supervisor"
To: "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,
"Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,
Carol" , "De la Torre, Juan C" , "Dennis" , "Denton, Derek" , "Dieste, Bobby" , "Doucet,
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"Hammell, Hank" , "Harry Melnikoff" , "Hendricks, Marvin" , "Hutcinson, Clayton" , "Jim
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Walton" , "Willis, Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"
Date: 3/8/2011 9:39 AM
Subject: Rough Canyon Federal 30-1 Update
CC: "Knight, Randy"

3/8/2011 9:36 AM

Continue demobbing Boart LK700. Anticipate begin mob of Pat 304 early next week.

Tom Zupan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
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Cell (970) 314-8219

wolvexpl@drillmail.net

Carol Daniels - Rough Canyon Federal 30-1 Update

Y 175 RDE 5-32

43-03950023

From: "Wolverine Supervisor"

To: ""Hendricks, Marvin"" , "Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home"" ,
""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , ""Jones, Mark"" , "Ainge, Jeff" , "Allen,
Geoff" , , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope " , "Chamberlain, Don" ,
"Childers, Eli" , "Chris Schaugard" , "Daniel Jenkins" , "De la Torre, Juan C" , "Dennis" ,
"Denton, Derek" , "Dieste, Bobby" , "Dustin Dunning" , "Foreman, Ron" , "George
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"Larimore, Mark" , "Lewis, John" , "Martin Pete" , "McCoy, Charlene" , "McCoy, Tim" ,
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Burns" , "Shawn Moulton" , "Shelton, Shorty" , "Steffen, Dana" , "Tujillo, Chris" , "Tyler
Ross" , "Winkler, Matt" , "Zimmerman, Bill"

Date: 3/11/2011 7:46 AM

Subject: Rough Canyon Federal 30-1 Update

3/11/2011 7:42 AM

Clearing and preparing location for Patterson UTI 304 rig move.

Bill Donovan

Drilling Supervisor

Wolverine Gas and Oil Company of Utah, LLC

Rough Canyon Federal 30-1, AFE 224

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DIV. OF OIL, GAS & MINING

Carol Daniels - Rough Canyon Federal 30-1 Update

T-129 RO7E 532
43-039-50003

From: "Wolverine Supervisor"
To: "Hendricks, Marvin" , "Knight, Randy" , , "Willis, Walton" , "Willis, Walton Home" ,
"Daniels, Carol" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark"
Date: 3/12/2011 7:01 AM
Subject: Rough Canyon Federal 30-1 Update

3/12/2011 6:57 AM

Preparing pad for rig

Bill Donovan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rough Canyon Federal 30-1, AFE 224
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DIV. OF OIL, GAS & MINING

Carol Daniels - Rough Canyon Federal 30-1 update

T175 ROIE 5-32 43-039-50003

From: "Wolverine Supervisor"

To: ""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , ""Jones, Mark"" , ""Hendricks, Marvin"" ,
"Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home""

Date: 3/13/2011 6:27 AM

Subject: Rough Canyon Federal 30-1 update

3/13/2011 6:23 AM

Preparing location

Bill Donovan

Drilling Supervisor

Wolverine Gas and Oil Company of Utah, LLC

Rough Canyon Federal 30-1, AFE 224

Rig (970) 361-3276

Cell (720) 351-7470

boart@drillmail.net

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Carol Daniels - Rough Canyon Federal 30-1 Update

T175 R01E 5-32

43-039-50003

From: "Wolverine Supervisor"
To: ""Hendricks, Marvin"" , "Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home"" ,
""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , ""Jones, Mark""
Date: 3/14/2011 6:26 AM
Subject: Rough Canyon Federal 30-1 Update

3/14/2011 6:22 AM

Start moving Patterson UTI 304 today

Bill Donovan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rough Canyon Federal 30-1, AFE 224
Rig (970) 361-3276
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boart@drillmail.net

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Page 1 of 1

Carol Daniels - Rough Canyon Federal 30-1 Update

T175 ROIE 5-32 43-039-50003

From: "Wolverine Supervisor"
To: "Hendricks, Marvin" , "Knight, Randy" , , "Willis, Walton" , "Willis, Walton Home" ,
"Daniels, Carol" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark"
Date: 3/15/2011 7:49 PM
Subject: Rough Canyon Federal 30-1 Update

3/15/2011 7:47 PM

Moving rig

Bill Donovan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rough Canyon Federal 30-1, AFE 224
Rig (970) 361-3276
Cell (720) 351-7470
boart@drillmail.net

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DIV. OF OIL, GAS & MINING

Carol Daniels - Rough Canyon Federal 30-1 Update

TMS ROIE 5-32 43-039-50003

From: "Wolverine Supervisor"

To: "Daniels, Carol" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark" , "Hendricks, Marvin" ,
"Knight, Randy" , , "Willis, Walton" , "Willis, Walton Home"

Date: 3/17/2011 6:38 AM

Subject: Rough Canyon Federal 30-1 Update

3/17/2011 6:36 AM

Moving rig

Bill Donovan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rough Canyon Federal 30-1, AFE 224
Rig (970) 361-3276
Cell (720) 351-7470
boart@drillmail.net

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DIV. OF OIL, GAS & MINING

Carol Daniels - Rough Canyon Federal 30-1 Update

TIPS ROLE 5-32 43-039-5003

From: "Wolverine Supervisor"
To: "Daniels, Carol" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark" , "Hendricks, Marvin" ,
"Knight, Randy" , , "Willis, Walton" , "Willis, Walton Home"
Date: 3/18/2011 7:19 AM
Subject: Rough Canyon Federal 30-1 Update

3/18/2011 7:16 AM

Continue to rig up.

Bill Donovan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rough Canyon Federal 30-1, AFE 224
Rig (970) 361-3276
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boart@drillmail.net

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MAR 22 2011

DIV OF OIL GAS & MINING

Carol Daniels - Rough Canyon Federal 30-1 Update

TIPS ROLE 5-32 43-039-50083

From: "Wolverine Supervisor"

To: "Daniels, Carol" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark" , "Hendricks, Marvin" ,
"Knight, Randy" , , "Willis, Walton" , "Willis, Walton Home"

Date: 3/19/2011 8:58 PM

Subject: Rough Canyon Federal 30-1 Update

3/19/2011 8:56 PM

Derrick raised and centered over hole

Bill Donovan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rough Canyon Federal 30-1, AFE 224
Rig (970) 361-3276
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boart@drillmail.net

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DIV. OF OIL, GAS & MINING

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-82536
1. TYPE OF WELL Oil Well		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
2. NAME OF OPERATOR: WOLVERINE OPERATING COMPANY OF UTAH, LLC		7. UNIT or CA AGREEMENT NAME:
3. ADDRESS OF OPERATOR: One Riverfront Plaza 55 Campau NW, Grand Rapids, MI, 49503		8. WELL NAME and NUMBER: ROUGH CANYON FED 30-1
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0288 FNL 0452 FWL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWNW Section: 32 Township: 17.0S Range: 01.0E Meridian: S		9. API NUMBER: 43039500030000
PHONE NUMBER: 616 458-1150 Ext		9. FIELD and POOL or WILDCAT: WILDCAT
COUNTY: SANPETE		STATE: UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
TYPE OF SUBMISSION	TYPE OF ACTION	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> ALTER CASING	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CASING REPAIR	
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 3/31/2011	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	
	<input type="checkbox"/> CHANGE WELL STATUS	
	<input type="checkbox"/> CHANGE WELL TYPE	
	<input type="checkbox"/> DEEPEN	
	<input type="checkbox"/> FRACTURE TREAT	
	<input type="checkbox"/> NEW CONSTRUCTION	
	<input type="checkbox"/> OPERATOR CHANGE	
	<input type="checkbox"/> PLUG AND ABANDON	
	<input type="checkbox"/> PLUG BACK	
	<input type="checkbox"/> PRODUCTION START OR RESUME	
	<input type="checkbox"/> RECLAMATION OF WELL SITE	
	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> TEMPORARY ABANDON	
	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> VENT OR FLARE	
	<input type="checkbox"/> WATER DISPOSAL	
	<input type="checkbox"/> WATER SHUTOFF	
	<input type="checkbox"/> SI TA STATUS EXTENSION	
	<input type="checkbox"/> APD EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	
	<input type="checkbox"/> OTHER: <input style="width: 100px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. Please see attached document for drilling details.		
Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY		
NAME (PLEASE PRINT) Helene Bardolph	PHONE NUMBER 616 458-1150	TITLE Engineering Administrative Assistant
SIGNATURE N/A	DATE 4/7/2011	

Subject: Wolverine Operating Company of Utah, LLC
Rough Canyon Federal 30-1
NW¼ NW¼ Sec 32-T17S-R1E surface location
NE¼ SE¼ Sec 30-T17S-R1E Projected BHL
Sanpete County, Utah.

23 February – 1 March 2011

Depth 6502' DF, 13¾ @ 3769' DF. Investigate problems that resulted in dropped block, rig repair.
MW -9.2, Vis. - 57, FL - 8.5. Surveys: none.

2 March 2011

Depth 6502' DF, 13¾ @ 3769' DF. Rig repair, GIH w/ overshot in attempt to catch survey tool, wash to bottom, POOH. MW -9.2, Vis. - 44, FL - 17. Surveys: none.

3 March 2011

Depth 6502' DF, 13¾ @ 3769' DF. POOH, LD DP & DC's. MW -9.2, Vis. - 44, FL - 17.
Surveys: none.

4 March 2011

Depth 6502' DF, 13¾ @ 3769' DF. LDDP, RDRT. MW -9.2, Vis. - 44, FL - 17. Surveys: none.

5 March – 9 March 2011

Depth 6502' DF, 13¾ @ 3769' DF. RDRT. MW -9.2, Vis. - 44, FL - 17. Surveys: none.

10 March – 14 March 2011

Depth 6502' DF, 13¾ @ 3769' DF. RDMORT, clean up location and prep for MIRU Patterson rig.
MW -9.2, Vis. - 44, FL - 17. Surveys: none.

15 March – 21 March 2011

Depth 6502' DF, 13¾ @ 3769' DF. MIRU Patterson rig 304. MW -9.2, Vis. - 44, FL - 17.
Surveys: none.

22 – 24 March 2011

Depth 6502' DF, 13¾ @ 3769' DF. MIRU Patterson rig 304. MW -9.2, Vis. - 44, FL - 17.
Surveys: none.

25 March 2011

Depth 6502' DF, 13¾ @ 3769' DF. Build stands of drill pipe, PU bit and junk basket. MW -9.2,
Vis. - 44, FL - 17. Surveys: none.

26 March 2011

Depth 6502' DF, 13¾ @ 3769' DF. GIH to 2977', break circulation, GIH, spot 150 bbl LCM pill at
csg shoe, GIH to 6470', rig repair. MW -8.6, Vis. - 48, FL - 8.7. Surveys: none.

27 March 2011

Depth 6502' DF, 13¾ @ 3769' DF. Rig repair, POOH to csg shoe, rig repair. MW -8.6, Vis. - 49,
FL - 8.1. Surveys: none.

28 March 2011

Depth 6505' DF, 13³/₈ @ 3769' DF. Rig repair, GIH to 6494', break circulation, drill on junk 6494' to 6505'. MW -8.6, Vis. - 51, FL - 8.8. Surveys: none.

29 March 2011

Depth 6516' DF, 13³/₈ @ 3769' DF. Drill on junk, POOH, PU new BHA, GIH, survey. MW - 8.6, Vis. - 51, FL - 9.8. Surveys: 5.01° @ 6481'.

30 March 2011

Depth 6605' DF, 13³/₈ @ 3769' DF. Work on lost circulation, drill, POOH to casing shoe, build mud volume, GIH, MWD not responding, spot LCM pill. MW -8.6, Vis. - 49, FL - 8.1. Surveys: none.

31 March 2011

Depth 6605' DF, 13³/₈ @ 3769' DF. Wait on LCM pill to soak, pump LCM pill, wait on pill to soak, pump LCM pill, wait on pill to soak, POOH, change MWD, GIH w/ new bit. MW - 8.6, Vis. - 49, FL - 8.1. Surveys: none.

Carol Daniels - Rough Canyon Federal 30-1 Update

TIPS ROIES-32 430395003

From: "Wolverine Supervisor"

To: ""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , ""Jones, Mark"" , "Hendricks, Marvin"" ,
"Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home""

Date: 4/6/2011 11:28 AM

Subject: Rough Canyon Federal 30-1 Update

4/6/2011 7:00 AM

Drilling 12 ¼" with aerated mud at 7082', 3 fph.

~~~~~

4/5/2011 6:32 AM

Drilling with aerated mud at 6999', 6 fph.

~~~~~

4/3/2011 1:15 PM

Drilling with aerated mud at 6885', 4.5 fph.

~~~~~

4/1/2011 4:29 PM

Drilling with aerated mud at 6659', 6.3 fph.

~~~~~

3/31/2011 6:57 AM

Current depth is 6605'. Making trip to continue drilling 12.25" hole.

Tom Zupan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rig (970) 361-3276
Cell (970) 314-8219

wolvexpl@drillmail.net

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APR 06 2011

DIV. OF OIL, GAS & MINING

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Page 1 of 1

Carol Daniels - Rough Canyon Federal 30-1 Update

T 175 ROIES-32
43-039-50003

From: "Wolverine Supervisor"
To: ""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , ""Jones, Mark"" , ""Hendricks, Marvin"" ,
"Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home""
Date: 4/7/2011 6:39 AM
Subject: Rough Canyon Federal 30-1 Update

4/7/2011 6:35 AM

Drilling with aerated mud at 7200', 5 fph.

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4/6/2011 7:00 AM

Drilling 12 ¼" with aerated mud at 7082', 3 fph.

4/5/2011 6:32 AM

Drilling with aerated mud at 6999', 6 fph.

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4/3/2011 1:15 PM

Drilling with aerated mud at 6885', 4.5 fph.

4/1/2011 4:29 PM

Drilling with aerated mud at 6659', 6.3 fph.

3/31/2011 6:57 AM

Current depth is 6605'. Making trip to continue drilling 12.25" hole.

Tom Zupan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rig (970) 361-3276
Cell (970) 314-8219

wolvexpl@drillmail.net

Carol Daniels - Rough Canyon Federal 30-1 Update

T175 ROIE S-32 43-039-50003

From: "Wolverine Supervisor"
To: "Daniels, Carol" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark" , "Hendricks, Marvin" ,
"Knight, Randy" , , "Willis, Walton" , "Willis, Walton Home"
Date: 4/8/2011 7:01 AM
Subject: Rough Canyon Federal 30-1 Update

4/8/2011 6:58 AM

Trip in with new bit and stabs at 432'. TD is 7258'.

~~~~~  
4/7/2011 6:35 AM

Drilling with aerated mud at 7200', 5 fph.

~~~~~  
4/6/2011 7:00 AM

Drilling 12 1/4" with aerated mud at 7082', 3 fph.

~~~~~  
4/5/2011 6:32 AM

Drilling with aerated mud at 6999', 6 fph.

~~~~~  
4/3/2011 1:15 PM

Drilling with aerated mud at 6885', 4.5 fph.

~~~~~  
4/1/2011 4:29 PM

Drilling with aerated mud at 6659', 6.3 fph.

~~~~~  
3/31/2011 6:57 AM

Current depth is 6605'. Making trip to continue drilling 12.25" hole.

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Carol Daniels - Rough Canyon Federal 30-1 Update*T19S R01E5-32 43-039-50003***From:** "Wolverine Supervisor"**To:** ""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , ""Jones, Mark"" , ""Hendricks, Marvin"" ,
"Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home""**Date:** 4/9/2011 7:03 AM**Subject:** Rough Canyon Federal 30-1 Update

4/9/2011 7:00 AM

Drilling at 7,327', ROP 4-5 fph

Bill Donovan**Drilling Supervisor****Wolverine Gas and Oil Company of Utah, LLC****Rough Canyon Federal 30-1, AFE 224****Rig (970) 361-3276****Cell (720) 351-7470****wolvexpl@drillmail.net****RECEIVED****APR 13 2011****DIV. OF OIL, GAS & MINING**

Carol Daniels - Rough Canyon Federal 30-1 Update

T195 R01E 5-31 43-039-5 0003

From: "Wolverine Supervisor"
To: "Hendricks, Marvin" , "Knight, Randy" , , "Willis, Walton" , "Willis, Walton Home" ,
"Daniels, Carol" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark"
Date: 4/10/2011 6:21 AM
Subject: Rough Canyon Federal 30-1 Update

4/10/2011 6:19 AM

Drilling at 7,413', ROP 4 fph

Bill Donovan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rough Canyon Federal 30-1, AFE 224
Rig (970) 361-3276
Cell (720) 351-7470
wolvexpl@drillmail.net

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Carol Daniels - Rough Canyon Federal 30-1 Update *T 175 ROLF 5-32 43-039.50003*

From: "Wolverine Supervisor"
To: "Hendricks, Marvin" , "Knight, Randy" , , "Willis, Walton" , "Willis, Walton Home" ,
"Daniels, Carol" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark"
Date: 4/11/2011 6:59 AM
Subject: Rough Canyon Federal 30-1 Update

4/11/2011 6:55 AM

Drilling at 7,533', PR 5-8 fph

Casing point has not been determined

Bill Donovan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rough Canyon Federal 30-1, AFE 224
Rig (970) 361-3276
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wolvexpl@drillmail.net

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Carol Daniels - Rough Canyon Federal 30-1 Update

TINS ROIE S-32 43-039-50003

From: "Wolverine Supervisor"

To: "Hendricks, Marvin" , "Knight, Randy" , , "Willis, Walton" , "Willis, Walton Home" ,
"Daniels, Carol" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark"

Date: 4/12/2011 7:22 AM

Subject: Rough Canyon Federal 30-1 Update

4/12/2011 7:19 AM

Hole depth 7,596', TIH w/NB

Bill Donovan

Drilling Supervisor

Wolverine Gas and Oil Company of Utah, LLC

Rough Canyon Federal 30-1, AFE 224

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wolvexpl@drillmail.net

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Carol Daniels - Rough Canyon Federal 30-1 Update

TIPS ROIES-32 43-039-50003

From: "Wolverine Supervisor"
To: "Daniels, Carol" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark" , "Hendricks, Marvin" ,
"Knight, Randy" , , "Willis, Walton" , "Willis, Walton Home"
Date: 4/14/2011 7:07 AM
Subject: Rough Canyon Federal 30-1 Update

4/14/2011 7:04 AM

Drilling at 7,670'

Casing point has not been determined

Bill Donovan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rough Canyon Federal 30-1, AFE 224
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wolvexpl@drillmail.net

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Carol Daniels - Rough Canyon Federal 30-1 Update

T179 ROIES-32 4303950003

From: "Wolverine Supervisor"
To: ""Hendricks, Marvin"" , "Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home"" ,
""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , ""Jones, Mark""
Date: 4/20/2011 7:22 AM
Subject: Rough Canyon Federal 30-1 Update

4/20/2011 7:17 AM

Drilling at 8,182', PR 6 fph

Geologist seeing some changes. Casing point has not been determined

Bill Donovan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rough Canyon Federal 30-1, AFE 224
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wolvexpl@drillmail.net

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Page 1 of 1

Carol Daniels - Rough Canyon Federal 30-1, Update *T173 R01E5-32 43039-50003*

From: "Wolverine Supervisor"
To: ""Hendricks, Marvin"" , "Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home"" ,
""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark"
Date: 4/15/2011 7:20 AM
Subject: Rough Canyon Federal 30-1, Update

4/15/2011 7:17 AM

Drilling at 7,772', ROP 7 FPH

Bill Donovan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rough Canyon Federal 30-1, AFE 224
Rig (970) 361-3276
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wolvexpl@drillmail.net

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Page 1 of 1

Carol Daniels - Rough Canyon Federal 30-1 Update

T17SR01ES-32 4303950003

From: "Wolverine Supervisor"
To: ""Hendricks, Marvin"" , "Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home"" ,
""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark"
Date: 4/17/2011 8:09 AM
Subject: Rough Canyon Federal 30-1 Update

4/17/2011 8:05 AM

Depth 7,826', PR 1 FPH

Casing point has not been determined

Bill Donovan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rough Canyon Federal 30-1, AFE 224
Rig (970) 361-3276
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wolvexpl@drillmail.net

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Carol Daniels - Rough Canyon Federal 30-1 Update

T175 ROIES-32 43-039-50003

From: "Wolverine Supervisor"
To: ""Hendricks, Marvin"" , "Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home"" ,
""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark"
Date: 4/18/2011 7:21 AM
Subject: Rough Canyon Federal 30-1 Update

4/18/2011 7:15 AM

Drilling at 7,851', PR 5 fph

Casing point has not been determined

Bill Donovan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rough Canyon Federal 30-1, AFE 224
Rig (970) 361-3276
Cell (720) 351-7470
wolvexpl@drillmail.net

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Carol Daniels - Rough Canyon Federal 30-1 Update

T 125 ROIES-32 43-039-50003

From: "Wolverine Supervisor"
To: ""Hendricks, Marvin"" , "Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home"" ,
""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , ""Jones, Mark""
Date: 4/22/2011 7:02 AM
Subject: Rough Canyon Federal 30-1 Update

4/22/2011 6:57 AM

Hole depth 8,424', TOH for bit

The Geologist has a correlation and an estimated depth for casing

Bill Donovan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rough Canyon Federal 30-1, AFE 224
Rig (970) 361-3276
Cell (720) 351-7470
wolvexpl@drillmail.net

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APR 26 2011

DIV. OF OIL, GAS & MINING

Carol Daniels - Rough Canyon Federal 30-1 Update

TIPS ROLE S-32 43-039-50003

From: "Wolverine Supervisor"
To: ""Hendricks, Marvin"" , "Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home"" ,
""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , ""Jones, Mark""
Date: 4/24/2011 7:22 AM
Subject: Rough Canyon Federal 30-1 Update

4/24/2011 7:20 AM

Drilling at 8443'.

Tom Zupan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rig (970) 361-3276
Cell (970) 314-8219

wolvexpl@drillmail.net

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APR 26 2011

DIV. OF OIL, GAS & MINING

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Page 1 of 1

Carol Daniels - Rough Canyon Federal 30-1 Update *T175 R01E-S-32 43-039-50003*

From: "Wolverine Supervisor"
To: "Hendricks, Marvin" , "Knight, Randy" , , "Willis, Walton" , "Willis, Walton Home" ,
"Daniels, Carol" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark"
Date: 4/25/2011 6:48 AM
Subject: Rough Canyon Federal 30-1 Update

4/25/2011 6:47 AM

Drilling at 8545'.

Tom Zupan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rig (970) 361-3276
Cell (970) 314-8219

wolvexpl@drillmail.net

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DIV. OF OIL, GAS & MINING

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Page 1 of 1

Carol Daniels - Rough Canyon Federal 30-1 Update

T 125 P 01 E S-32 43-039-50003

From: "Wolverine Supervisor"

To: ""Hendricks, Marvin"" , "Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home"" ,
""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , ""Jones, Mark""

Date: 4/26/2011 6:39 AM

Subject: Rough Canyon Federal 30-1 Update

4/26/2011 6:37 AM

Drilling at 8622'.

Tom Zupan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rig (970) 361-3276
Cell (970) 314-8219

wolvexpl@drillmail.net

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DIV. OF OIL, GAS & MINING

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-82536
		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
		7. UNIT or CA AGREEMENT NAME:
1. TYPE OF WELL Oil Well		8. WELL NAME and NUMBER: ROUGH CANYON FED 30-1
2. NAME OF OPERATOR: WOLVERINE OPERATING COMPANY OF UTAH, LLC		9. API NUMBER: 43039500030000
3. ADDRESS OF OPERATOR: One Riverfront Plaza 55 Campau NW, Grand Rapids, MI, 49503		9. FIELD and POOL or WILDCAT: WILDCAT
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0288 FNL 0452 FWL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWNW Section: 32 Township: 17.0S Range: 01.0E Meridian: S		COUNTY: SANPETE
		STATE: UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
TYPE OF SUBMISSION	TYPE OF ACTION	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"><input type="checkbox"/> ACIDIZE</div> <div style="width: 33%;"><input type="checkbox"/> ALTER CASING</div> <div style="width: 33%;"><input type="checkbox"/> CASING REPAIR</div> <div style="width: 33%;"><input type="checkbox"/> CHANGE TO PREVIOUS PLANS</div> <div style="width: 33%;"><input type="checkbox"/> CHANGE TUBING</div> <div style="width: 33%;"><input type="checkbox"/> CHANGE WELL NAME</div> <div style="width: 33%;"><input type="checkbox"/> CHANGE WELL STATUS</div> <div style="width: 33%;"><input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS</div> <div style="width: 33%;"><input type="checkbox"/> CONVERT WELL TYPE</div> <div style="width: 33%;"><input type="checkbox"/> DEEPEN</div> <div style="width: 33%;"><input type="checkbox"/> FRACTURE TREAT</div> <div style="width: 33%;"><input type="checkbox"/> NEW CONSTRUCTION</div> <div style="width: 33%;"><input type="checkbox"/> OPERATOR CHANGE</div> <div style="width: 33%;"><input type="checkbox"/> PLUG AND ABANDON</div> <div style="width: 33%;"><input type="checkbox"/> PLUG BACK</div> <div style="width: 33%;"><input type="checkbox"/> PRODUCTION START OR RESUME</div> <div style="width: 33%;"><input type="checkbox"/> RECLAMATION OF WELL SITE</div> <div style="width: 33%;"><input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION</div> <div style="width: 33%;"><input type="checkbox"/> REPERFORATE CURRENT FORMATION</div> <div style="width: 33%;"><input type="checkbox"/> SIDETRACK TO REPAIR WELL</div> <div style="width: 33%;"><input type="checkbox"/> TEMPORARY ABANDON</div> <div style="width: 33%;"><input type="checkbox"/> TUBING REPAIR</div> <div style="width: 33%;"><input type="checkbox"/> VENT OR FLARE</div> <div style="width: 33%;"><input type="checkbox"/> WATER DISPOSAL</div> <div style="width: 33%;"><input type="checkbox"/> WATER SHUTOFF</div> <div style="width: 33%;"><input type="checkbox"/> SI TA STATUS EXTENSION</div> <div style="width: 33%;"><input type="checkbox"/> APD EXTENSION</div> <div style="width: 33%;"><input type="checkbox"/> WILDCAT WELL DETERMINATION</div> <div style="width: 33%;"><input type="checkbox"/> OTHER</div> </div>	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:		
<input type="checkbox"/> SPUD REPORT Date of Spud:		
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 4/30/2011		
OTHER: <input style="width: 100px;" type="text"/>		
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. Please see attached file for drilling details.		
<div style="border: 1px solid black; padding: 10px; margin: 0 auto; width: 80%;"> <p style="margin: 0;">Accepted by the</p> <p style="margin: 0;">Utah Division of</p> <p style="margin: 0;">Oil, Gas and Mining</p> <p style="margin: 0;">FOR RECORD ONLY</p> </div>		
NAME (PLEASE PRINT) Helene Bardolph		PHONE NUMBER 616 458-1150
SIGNATURE N/A		TITLE Engineering Administrative Assistant
		DATE 5/11/2011

Wolverine Operating Company of Utah, LLC
Rough Canyon Federal 30-1
NW¼ NW¼ Sec 32-T17S-R1E surface location
NE¼ SE¼ Sec 30-T17S-R1E Projected BHL
Sanpete County, Utah.

April 2011 Drilling Summary

1 April 2011

Depth 6615' DF, 13. @ 3769' DF. Build mud volume, weight up to 8.8 ppg, add 15 ppb LCM, GIH, wash and ream to bottom, drill, pump service. MW -8.8, Vis. - 55, FL - 7. Surveys: none.

2 April 2011

Depth 6731' DF, 13. @ 3769' DF. Pump service, drill & survey. MW - 8.9, Vis. - 55, FL - 9.8. Surveys: 5.01° @ 6640'.

3 April 2011

Depth 6858' DF, 13. @ 3769' DF. Drill & survey. MW - 8.8, Vis. - 54, FL - 14. Surveys: 4.92° @ 6738'.

4 April 2011

Depth 6953' DF, 13. @ 3769' DF. Drill & survey, C&C, POOH. MW - 8.8, Vis. - 44, FL - 13. Surveys: 4.9° @ 6830'.

5 April 2011

Depth 6995' DF, 13. @ 3769' DF. POOH, change bit and stabilizers, GIH, ream to btm, drill to 6995. MW - 8.8, Vis. - 41, FL - 12.6. Surveys: 5.1° @ 6915' & 5.19° @ 6924'.

6 April 2011

Depth 7080' DF, 13. @ 3769' DF. Drill & survey. MW - 8.9, Vis. - 48, FL - 9.2. Surveys: 5.01° @ 7016'.

7 April 2011

Depth 7197' DF, 13. @ 3769' DF. Drill & survey. MW -8.95, Vis. - 48, FL - 9. Surveys: 4.92° @ 7117'.

8 April 2011

Depth 7258' DF, 13. @ 3769' DF. Drill & survey, TFNB. MW - 8.8, Vis. - 51, FL - 6. Surveys: 4.92° @ 7246'.

9 April 2011

Depth 7323' DF, 13. @ 3769' DF. GIH, ream to bottom, drill. MW -8.8, Vis. - 50, FL - 7.8. Surveys: none.

10 April 2011

Depth 7412' DF, 13. @ 3769' DF. Drill & survey. MW - 8.8, Vis. - 63, FL

- 7.6. Surveys: 5.1° @ 7313'.

11 April 2011

Depth 7531' DF, 13. @ 3769' DF. Drill & survey. MW - 8.8, Vis. - 75, FL - 7.4. Surveys: 5.32° @ 7408'.

12 April 2011

Depth 7596' DF, 13. @ 3769' DF. Drill & survey, POOH. MW - 8.8, Vis. - 67, FL - 7.2. Surveys: 5.8° @ 7568'.

13 April 2011

Depth 7596' DF, 13. @ 3769' DF. PU bit, IBS & reamer, GIH, ream to bottom. MW -8.7, Vis. - 56, FL - 7.5. Surveys: none.

14 April 2011

Depth 7665' DF, 13. @ 3769' DF. Ream to bottom, drill & survey. MW - 8.9, Vis. - 53, FL - 7. Surveys: 5.8° @ 7596'.

15 April 2011

Depth 7766' DF, 13. @ 3769' DF. Drill & survey. MW -8.8, Vis. - 67, FL - 6. Surveys: 5.8° @ 7691'.

16 April 2011

Depth 7794' DF, 13. @ 3769' DF. Drill & survey, POOH, PU new bit, pump service. MW - 8.8, Vis. - 58, FL - 6.8. Surveys: 5.8° @ 7741'.

17 April 2011

Depth 7825' DF, 13. @ 3769' DF. Pump service, GIH, drill & survey. MW - 8.8, Vis. - 60, FL - 7. Surveys: 5.89° @ 7786'.

18 April 2011

Depth 7844' DF, 13. @ 3769' DF. Drill & survey, TFNB, drill. MW - 8.8, Vis. - 52, FL - 6.5. Surveys: 5.89° @ 7775'.

19 April 2011

Depth 8011' DF, 13. @ 3769' DF. Drill & survey. MW - 8.8, Vis. - 52, FL - 6.8. Surveys: 6° @ 7880'.

20 April 2011

Depth 8174' DF, 13. @ 3769' DF. Drill & survey. MW -8.9, Vis. - 60, FL - 6.5. Surveys: 6.4° @ 8071'.

21 April 2011

Depth 8331' DF, 13. @ 3769' DF. Drill & survey. MW - 8.8, Vis. - 64, FL - 7. Surveys: 7.1° @ 8165' & 7.9° @ 8260'.

22 April 2011

Depth 8424' DF, 13. @ 3769' DF. Drill & survey, C&C, POOH. MW -8.8, Vis. - 50, FL - 6. Surveys: 8.8° @ 8351'.

23 April 2011

Depth 8438' DF, 13. @ 3769' DF. POOH, change BHA, GIH, drill. MW - 8.8,

Vis. - 62, FL - 6.4. Surveys: none.

24 April 2011

Depth 8439' DF, 13. @ 3769' DF. Drill, C&C, POOH, change BHA, GIH, W&R to bottom. MW - 8.8, Vis. - 50, FL - 7. Surveys: none.

25 April 2011

Depth 8542' DF, 13. @ 3769' DF. Drill & survey. MW - 8.8, Vis. - 58, FL - 6.8. Surveys: 9° @ 8396' & 9° @ 8481'.

26 April 2011

Depth 8619' DF, 13. @ 3769' DF. Drill & survey. MW - 8.8, Vis. - 55, FL - 7. Surveys: 9.4° @ 8541'.

27 April 2011

Depth 8619' DF, 13. @ 3769' DF. Drill & survey, TFNB, GIH. MW -8.8, Vis. - 52, FL - 7.1. Surveys: 9.4° @ 8541'.

28 April 2011

Depth 8772' DF, 13. @ 3769' DF. Drill & survey. MW - 8.8, Vis. - 60, FL - 6.7. Surveys: 9.49° @ 8641' & 9.71° @ 8721'.

29 April 2011

Depth 8863' DF, 13. @ 3769' DF. Drill & survey. MW -8.8, Vis. - 57, FL - 7. Surveys: 9.89° @ 8812'.

30 April 2011

Depth 8966' DF, 13. @ 3769' DF. Drill & survey. MW - 8.8, Vis. - 54, FL - 7.9. Surveys: 10.11° @ 8907'.

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Page 1 of 1

Carol Daniels - Rough Canyon Federal 30-1 Update

T 175 R 01E S-32
43-039-50003

From: "Wolverine Supervisor"

To: ""Hendricks, Marvin"" , "Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home"" ,
""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark"

Date: 4/27/2011 7:06 AM

Subject: Rough Canyon Federal 30-1 Update

4/27/2011 7:04 AM

Made bit trip and drilling at 8656'.

Tom Zupan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rig (970) 361-3276
Cell (970) 314-8219

wolvexpl@drillmail.net

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DIV. OF OIL, GAS & MINING

Carol Daniels - Rough Canyon Federal 30-1 Update

TIPS ROLE 5-32 43-039-50003

From: "Wolverine Supervisor"
To: ""Hendricks, Marvin"" , "Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home"" ,
""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark"
Date: 4/28/2011 6:45 AM
Subject: Rough Canyon Federal 30-1 Update

4/28/2011 6:43 AM

Drilling at 8776'.

Tom Zupan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
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wolvexpl@drillmail.net

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Carol Daniels - Rough Canyon Federal 30-1 Update *TINSROLE 5-3243-039-50003*

From: "Wolverine Supervisor"
To: ""Hendricks, Marvin"" , "Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home"" ,
""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , ""Jones, Mark""
Date: 4/29/2011 6:54 AM
Subject: Rough Canyon Federal 30-1 Update

4/29/2011 6:50 AM

Drilling at 8866'.

Tom Zupan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
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Cell (970) 314-8219

wolvexpl@drillmail.net

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Carol Daniels - Rough Canyon Federal 30-1 Update

TIPS ROIE 5-32 43-039-50003

From: "Wolverine Exploration Rig"

To: ""Hendricks, Marvin"" , "Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home"" , ""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , ""Jones, Mark""

Date: 4/30/2011 7:08 AM

Subject: Rough Canyon Federal 30-1 Update

4/30/2011 7:02 AM

Drilling at 8969'.

Note: Soon operations for the Boart Longyear Rig will begin on the Denmark Wash Fed 15-2 well. The supervisor for that rig will be using the boart@drillmail.net email address. Please begin to use that address for Boart/Denmark Wash issues.

The supervisor for the Patterson 304 on the Rough Canyon Fed 30-1 operation will be using only the wolvexpl@drillmail.net email address. Please use only this address for the Patterson/Rough Canyon issues.

Thank you,
Tom

Tom Zupan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rig (970) 361-3276
Cell (970) 314-8219

wolvexpl@drillmail.net

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Carol Daniels - Rough Canyon Federal 30-1 Update *TIPS ROIE 5-32 43-039-5003*

From: "Wolverine Exploration Rig"
To: "Hendricks, Marvin" , "Knight, Randy" , , "Willis, Walton" , "Willis, Walton Home" ,
"Daniels, Carol" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark"
Date: 5/1/2011 4:11 PM
Subject: Rough Canyon Federal 30-1 Update

5/1/2011 7:13 AM

Drlg @ 9063'.

Note: Soon operations for the Boart Longyear Rig will begin on the Denmark Wash Fed 15-2 well. The supervisor for that rig will be using the boart@drillmail.net email address. Please begin to use that address for Boart/Denmark Wash issues.

The supervisor for the Patterson 304 on the Rough Canyon Fed 30-1 operation will be using only the wolvexpl@drillmail.net email address. Please use only this address for the Patterson/Rough Canyon issues.

Thank you,
Tom

Tom Zupan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rig (970) 361-3276
Cell (970) 314-8219

wolvexpl@drillmail.net

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Carol Daniels - Rough Canyon Federal 30-1 Update

TIPS ROIE S-32 43-039-50003

From: "Wolverine Exploration Rig"

To: ""Hendricks, Marvin"" , "Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home"" ,
""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , ""Jones, Mark""

Date: 5/2/2011 6:27 AM

Subject: Rough Canyon Federal 30-1 Update

5/2/2011 6:24 AM

Tripping at 826'

~~~~~

Note: Soon operations for the Boart Longyear Rig will begin on the Denmark Wash Fed 15-2 well. The supervisor for that rig will be using the [boart@drillmail.net](mailto:boart@drillmail.net) email address. Please begin to use that address for Boart/Denmark Wash issues.

The supervisor for the Patterson 304 on the Rough Canyon Fed 30-1 operation will be using only the [wolvexpl@drillmail.net](mailto:wolvexpl@drillmail.net) email address. Please use only this address for the Patterson/Rough Canyon issues.

Thank you,  
Tom

**Tom Zupan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
**Rig (970) 361-3276**  
**Cell (970) 314-8219**

[wolvexpl@drillmail.net](mailto:wolvexpl@drillmail.net)

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**Carol Daniels - Rough Canyon Federal 30-1 Update**

*TINS ROIE S-32 4303950003*

**From:** "Wolverine Exploration Rig"

**To:** "Hendricks, Marvin" , "Knight, Randy" , , "Willis, Walton" , "Willis, Walton Home" ,  
"Daniels, Carol" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark"

**Date:** 5/3/2011 7:08 AM

**Subject:** Rough Canyon Federal 30-1 Update

5/3/2011 7:04 AM

Drilling at 9196'

~~~~~

Note: Soon operations for the Boart Longyear Rig will begin on the Denmark Wash Fed 15-2 well. The supervisor for that rig will be using the boart@drillmail.net email address. Please begin to use that address for Boart/Denmark Wash issues. 970-812-0022 phone

The supervisor for the Patterson 304 on the Rough Canyon Fed 30-1 operation will be using only the wolvexpl@drillmail.net email address. Please use only this address for the Patterson/Rough Canyon issues. 970-361-3276 phone.

Thank you,
Tom

Tom Zupan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rig (970) 361-3276
Cell (970) 314-8219

wolvexpl@drillmail.net

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MAY 03 2011

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Carol Daniels - Rough Canyon Federal 30-1 Update

T 175 ROVE 5.32 43-039-50003

From: "Wolverine Exploration Rig"
To: ""Hendricks, Marvin"" , "Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home"" ,
""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , ""Jones, Mark""
Date: 5/4/2011 7:13 AM
Subject: Rough Canyon Federal 30-1 Update

5/4/2011 7:11 AM

Drilling at 9291'.

~~~~~

Note: Soon operations for the Boart Longyear Rig will begin on the Denmark Wash Fed 15-2 well. The supervisor for that rig will be using the [boart@drillmail.net](mailto:boart@drillmail.net) email address. Please begin to use that address for Boart/Denmark Wash issues. 970-812-0022 phone

The supervisor for the Patterson 304 on the Rough Canyon Fed 30-1 operation will be using only the [wolvexpl@drillmail.net](mailto:wolvexpl@drillmail.net) email address. Please use only this address for the Patterson/Rough Canyon issues. 970-361-3276 phone.

Thank you,  
Tom

**Tom Zupan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
**Rig (970) 361-3276**  
**Cell (970) 314-8219**

[wolvexpl@drillmail.net](mailto:wolvexpl@drillmail.net)

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**Carol Daniels - Rough Canyon Federal 30-1 Update** *T175 ROIES-32 43-039-50003*

**From:** "Wolverine Exploration Rig"  
**To:** ""Hendricks, Marvin"" , "Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home"" ,  
""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , ""Jones, Mark""  
**Date:** 5/5/2011 7:08 AM  
**Subject:** Rough Canyon Federal 30-1 Update

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5/5/2011 7:04 AM

Drilling at 9353'  
~~~~~

Note: Soon operations for the Boart Longyear Rig will begin on the Denmark Wash Fed 15-2 well. The supervisor for that rig will be using the boart@drillmail.net email address. Please begin to use that address for Boart/Denmark Wash issues. 970-812-0022 phone

The supervisor for the Patterson 304 on the Rough Canyon Fed 30-1 operation will be using only the wolvexpl@drillmail.net email address. Please use only this address for the Patterson/Rough Canyon issues. 970-361-3276 phone.

Thank you,
Tom

Tom Zupan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rig (970) 361-3276
Cell (970) 314-8219

wolvexpl@drillmail.net

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Carol Daniels - Rough Canyon Federal 30-1 Update

T 175 ROIES-32 43-039-50023

From: "Wolverine Exploration Rig"
To: ""Hendricks, Marvin"" , "Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home"" ,
""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark"
Date: 5/6/2011 7:03 AM
Subject: Rough Canyon Federal 30-1 Update

5/6/2011 7:00 AM

Drilling at 9407'

Note: Soon operations for the Boart Longyear Rig will begin on the Denmark Wash Fed 15-2 well. The supervisor for that rig will be using the boart@drillmail.net email address. Please begin to use that address for Boart/Denmark Wash issues. 970-812-0022 phone

The supervisor for the Patterson 304 on the Rough Canyon Fed 30-1 operation will be using only the wolvexpl@drillmail.net email address. Please use only this address for the Patterson/Rough Canyon issues. 970-361-3276 phone.

Thank you,
Tom

Tom Zupan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
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wolvexpl@drillmail.net

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Carol Daniels - Rough Canyon Federal 30-1 Update

TIPS R 01E5-32 43-039-50003

From: "Wolverine Exploration Rig"

To: ""Hendricks, Marvin"" , ""Knight, Randy"" , , ""Willis, Walton"" , ""Willis, Walton Home"" , ""Daniels, Carol"" , ""Doucet, Dustin"" , ""Jarvis, Dan"" , ""Jones, Mark""

Date: 5/7/2011 7:04 AM

Subject: Rough Canyon Federal 30-1 Update

5/7/2011 6:58 AM

Drilling at 9482'

Note: Operations for the Boart Longyear Rig have begun on the Denmark Wash Fed 15-2 well. The supervisor for that rig will be using the boart@drillmail.net email address. Please begin to use that address for Boart/Denmark Wash issues. 970-812-0022 phone

The supervisor for the Patterson 304 on the Rough Canyon Fed 30-1 operation will be using only the wolvexpl@drillmail.net email address. Please use only this address for the Patterson/Rough Canyon issues. 970-361-3276 phone.

Thank you,
Tom

Tom Zupan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rig (970) 361-3276
Cell (970) 314-8219

wolvexpl@drillmail.net

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Carol Daniels - Rough Canyon Federal 30-1 Update

T175 ROLF 5-32 43-039-50003

From: "Wolverine Exploration Rig"**To:** ""Hendricks, Marvin"" , "Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home"" , ""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , ""Jones, Mark""**Date:** 5/7/2011 6:38 PM**Subject:** Rough Canyon Federal 30-1 Update**RECEIVED****MAY 09 2011**

55/7/2011 6:29 PM

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Drilled to 9482'. POOH, left 3 cones in the hole. Waiting on Magnet to fish cones. 9 5/8" casing point has been declared at 9482'. See schedule below.

				ESTIMATED SCHEDULE
DATE	DAY	START TIME	HR	DESCRIPTION
7-May	Saturday	17:00	5.50	Wait on fishing tools
7-May		22:30	2.00	Work BHA
8-May	Sunday	0:30	5.00	TIH
		5:30	2.00	Circ and work magnet
		7:30	6.00	POOH
		13:30	9.00	Wireline log
		22:30	2.00	Work BHA
9-May	Monday	0:30	5.00	TIH
		5:30	2.00	Circ and condition for logs/casing
		7:30	3.00	POOH to shoe
		10:30	2.00	Run gyro survey inside 5" dp
		12:30	3.00	Continue to POOH
		15:30	3.00	RU Franks Casing Crews
		18:30	18.00	Run 9 5/8" casing
10-May	Tuesday	12:30	2.00	Circulate & RU Dowell
		14:30	5.00	Cement Stage 1
		19:30	2.00	Open DV and Circulate
		21:30	3.00	Cement Stage 2
11-May	Wednesday	0:30		

~~~~~

Note: Operations for the Boart Longyear Rig have begun on the Denmark Wash Fed 15-2 well. The supervisor for that rig will be using the [boart@drillmail.net](mailto:boart@drillmail.net) email address. Please begin to use that address for Boart/Denmark Wash issues. 970-812-0022 phone

The supervisor for the Patterson 304 on the Rough Canyon Fed 30-1 operation will be using only the wolvexpl@drillmail.net email address. Please use only this address for the Patterson/Rough Canyon issues. 970-361-3276 phone.

Thank you,  
Tom

**Tom Zupan**  
**Drilling Supervisor**  
**Wolverine Gas and Oil Company of Utah, LLC**  
**Rig (970) 361-3276**  
**Cell (970) 314-8219**

**wolvexpl@drillmail.net**

**Carol Daniels - Rough Canyon Federal 30-1 Update** *T195R ROIE S-32 43-039-50003*

**From:** "Wolverine Exploration Rig"

**To:** "Hendricks, Marvin" , "Knight, Randy" , , "Willis, Walton" , "Willis, Walton Home" ,  
"Daniels, Carol" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark"

**Date:** 5/8/2011 7:03 AM

**Subject:** Rough Canyon Federal 30-1 Update

**RECEIVED**

5/8/2011 7:00 AM

**MAY 09 2011**

Trip in with magnet at 9300'.

**DIV. OF OIL, GAS & MINING**

|        |           |       |       | ESTIMATED SCHEDULE                 |
|--------|-----------|-------|-------|------------------------------------|
|        |           |       |       |                                    |
|        |           |       |       |                                    |
| DATE   | DAY       | START | HR    | DESCRIPTION                        |
|        |           | TIME  |       |                                    |
| 7-May  | Saturday  | 17:00 | 7.00  | Wait on fishing tools              |
| 8-May  | Sunday    | 0:00  | 2.00  | Work BHA                           |
|        |           | 2:00  | 5.00  | TIH                                |
|        |           | 7:00  | 2.00  | Circ and work magnet               |
|        |           | 9:00  | 6.00  | POOH                               |
|        |           | 15:00 | 9.00  | Wireline log                       |
| 9-May  | Monday    | 0:00  | 2.00  | Work BHA                           |
|        |           | 2:00  | 5.00  | TIH                                |
|        |           | 7:00  | 2.00  | Circ and condition for logs/casing |
|        |           | 9:00  | 3.00  | POOH to shoe                       |
|        |           | 12:00 | 2.00  | Run gyro survey inside 5" dp       |
|        |           | 14:00 | 3.00  | Continue to POOH                   |
|        |           | 17:00 | 3.00  | RU Franks Casing Crews             |
|        |           | 20:00 | 18.00 | Run 9 5/8" casing                  |
| 10-May | Tuesday   | 14:00 | 2.00  | Circulate & RU Dowell              |
|        |           | 16:00 | 5.00  | Cement Stage 1                     |
|        |           | 21:00 | 2.00  | Open DV and Circulate              |
|        |           | 23:00 | 3.00  | Cement Stage 2                     |
| 11-May | Wednesday | 2:00  |       |                                    |
|        |           |       |       |                                    |

~~~~~

Note: Operations for the Boart Longyear Rig have begun on the Denmark Wash Fed 15-2 well. The supervisor for that rig will be using the boart@drillmail.net email address. Please begin to use that address for Boart/Denmark Wash issues. 970-812-0022 phone

The supervisor for the Patterson 304 on the Rough Canyon Fed 30-1 operation will be using only the wolvexpl@drillmail.net email address. Please use only this address for the Patterson/Rough Canyon issues. 970-361-3276 phone.

Thank you,
Tom

Tom Zupan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rig (970) 361-3276
Cell (970) 314-8219

wolvexpl@drillmail.net

Carol Daniels - Rough Canyon Federal 30-1 Update *T 175 R01E 5-32 43-039-50003*

From: "Wolverine Exploration Rig"
To: ""Hendricks, Marvin"" , "Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home"" ,
""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark"
Date: 5/9/2011 7:47 AM
Subject: Rough Canyon Federal 30-1 Update

5/9/2011 7:34 AM

TIH with mill at 8,496', TD 9,482'

This is the clean out run prior to running casing.

Wolverine Gas and Oil plans to run casing. This is the 24 hour notification. Marvin Hendricks and Mark Jones will also be notified by phone.

Bill Donovan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rough Canyon Federal 30-1, AFE 224
Rig (970) 361-3276
Cell (720) 351-7470
wolvexpl@drillmail.net

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Carol Daniels - Rough Canyon Federal 30-1 update

T 175 R 01E S-32 43 0395 0003

From: "Wolverine Exploration Rig"
To: "Hendricks, Marvin" , "Knight, Randy" , , "Willis, Walton" , "Willis, Walton Home" ,
"Daniels, Carol" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark"
Date: 5/10/2011 9:50 AM
Subject: Rough Canyon Federal 30-1 update

5/10/2011 9:47 AM

Making up BHA for a clean out run prior to running casing.

Bill Donovan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rough Canyon Federal 30-1, AFE 224
Rig (970) 361-3276
Cell (720) 351-7470
wolvexpl@drillmail.net

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Carol Daniels - Rough Canyon Federal 30-1 Update

TIPS ROIE S-32 43-039-5003

From: "Wolverine Exploration Rig"
To: ""Hendricks, Marvin"" , "Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home"" ,
""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , ""Jones, Mark""
Date: 5/12/2011 6:47 AM
Subject: Rough Canyon Federal 30-1 Update

5/12/2011 6:44 AM

Running casing at 8,415'

Bill Donovan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rough Canyon Federal 30-1, AFE 224
Rig (970) 361-3276
Cell (720) 351-7470
wolvexpl@drillmail.net

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Carol Daniels - Rough Canyon Federal 30-1 Update

T175 R01E 5-35 43-039-50003

From: "Wolverine Exploration Rig"

To: "Hendricks, Marvin" , "Knight, Randy" , , "Willis, Walton" , "Willis, Walton Home" ,
"Daniels, Carol" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark"

Date: 5/13/2011 9:27 AM

Subject: Rough Canyon Federal 30-1 Update

5/13/2011 9:24 AM

WOC

Bill Donovan

Drilling Supervisor

Wolverine Gas and Oil Company of Utah, LLC

Rough Canyon Federal 30-1, AFE 224

Rig (970) 361-3276

Cell (720) 351-7470

wolvexpl@drillmail.net

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Carol Daniels - Rough Canyon Federal 30-1 Update

T 175 ROIES-32 43-039-50003

From: "Wolverine Exploration Rig"

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Date: 5/14/2011 9:04 AM

Subject: Rough Canyon Federal 30-1 Update

5/14/2011 9:02 AM

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Bill Donovan

Drilling Supervisor

Wolverine Gas and Oil Company of Utah, LLC

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Carol Daniels - Rough Canyon Federal 30-1 Update

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5/23/2011 9:21 PM

Drilling at 9,623', PR 3 fph

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Rough Canyon Federal 30-1, AFE 224
Rig (970) 361-3276
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wolvexpl@drillmail.net

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Carol Daniels - Rough Canyon Federal 30-1 Update

T17S R01E S-32 43-039-50003

From: "Wolverine Exploration Rig"
To: ""Hendricks, Marvin"" , "Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home"" ,
""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , ""Jones, Mark""
Date: 5/23/2011 9:23 PM
Subject: Rough Canyon Federal 30-1 Update

5/23/2011 9:21 PM

Drilling at 9,623', PR 3 fph

Bill Donovan
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Carol Daniels - Rough Canyon Federal 30-1 Update

TIPS ROIE S-32 43-039-5003

From: "Wolverine Exploration Rig"
To: ""Hendricks, Marvin"" , "Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home"" ,
""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , ""Jones, Mark""
Date: 5/12/2011 6:47 AM
Subject: Rough Canyon Federal 30-1 Update

5/12/2011 6:44 AM

Running casing at 8,415'

Bill Donovan
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Wolverine Gas and Oil Company of Utah, LLC
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Carol Daniels - Rough Canyon Federal 30-1 Update

T175 R01E 5-35 43-039-50003

From: "Wolverine Exploration Rig"

To: "Hendricks, Marvin" , "Knight, Randy" , , "Willis, Walton" , "Willis, Walton Home" ,
"Daniels, Carol" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark"

Date: 5/13/2011 9:27 AM

Subject: Rough Canyon Federal 30-1 Update

5/13/2011 9:24 AM

WOC

Bill Donovan

Drilling Supervisor

Wolverine Gas and Oil Company of Utah, LLC

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Carol Daniels - Rough Canyon Federal 30-1 Update

T 175 ROIES-32 43-039-50003

From: "Wolverine Exploration Rig"

To: ""Hendricks, Marvin"" , "Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home"" , ""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , ""Jones, Mark""

Date: 5/14/2011 9:04 AM

Subject: Rough Canyon Federal 30-1 Update

5/14/2011 9:02 AM

Finished testing BOP stack, start-strapping BHA.

Bill Donovan

Drilling Supervisor

Wolverine Gas and Oil Company of Utah, LLC

Rough Canyon Federal 30-1, AFE 224

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Carol Daniels - Rough Canyon Federal 30-1 Update

TIPS ROIE 5-3243-039-50003

From: "Wolverine Exploration Rig"
To: "Hendricks, Marvin" , "Knight, Randy" , , "Willis, Walton" , "Willis, Walton Home" ,
"Daniels, Carol" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark"
Date: 5/15/2011 4:07 PM
Subject: Rough Canyon Federal 30-1 Update

5/15/2011 4:03 PM

Ran tested BOP and ran LOT. Result will be sent under separate e-mail.

Bill Donovan
Drilling Supervisor
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Carol Daniels - Rough Canyon Federal 30-1 Update

T175 ROLES-32 43-089-50023

From: "Wolverine Exploration Rig"
To: ""Hendricks, Marvin"" , "Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home"" ,
""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark"
Date: 5/16/2011 6:33 AM
Subject: Rough Canyon Federal 30-1 Update

5/16/2011 6:31 AM

Running seismic survey on well (VSP)

Bill Donovan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
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Carol Daniels - Rough Canyon Federal 30-1 Update

T125 ROLE 5-32 43-039-50003

From: "Wolverine Exploration Rig"
To: ""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , ""Jones, Mark"" , ""Hendricks, Marvin"" ,
"Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home""
Date: 5/18/2011 9:05 AM
Subject: Rough Canyon Federal 30-1 Update

5/18/2011 9:02 AM

Circulate and condition OBM mud as shoe, new MW 10 ppg

Bill Donovan
Drilling Supervisor
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Carol Daniels - Rough Canyon Federal 30-1 Update

T17S R01E S-32 43-039-50003

From: "Wolverine Exploration Rig"
To: ""Hendricks, Marvin"" , "Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home"" ,
""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , ""Jones, Mark""
Date: 5/23/2011 9:23 PM
Subject: Rough Canyon Federal 30-1 Update

5/23/2011 9:21 PM

Drilling at 9,623', PR 3 fph

Bill Donovan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
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Carol Daniels - Rough Canyon Federal 30-1 Update *T179 ROLE S-32 43 039 50023*

From: "Wolverine Exploration Rig"
To: "Hendricks, Marvin" , "Knight, Randy" , , "Willis, Walton" , "Willis, Walton Home" ,
"Daniels, Carol" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark"
Date: 5/26/2011 5:12 PM
Subject: Rough Canyon Federal 30-1 Update

5/26/2011 5:09 PM

Hole depth 9,654'

Placed cement plug in open hole to stop lost circulation.

Bill Donovan
Drilling Supervisor
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Carol Daniels - Rough Canyon Federal 30-1 Update

TIPS POIE S-32 430395003

From: "Wolverine Exploration Rig"
To: "Hendricks, Marvin" , "Knight, Randy" , , "Willis, Walton" , "Willis, Walton Home" ,
"Daniels, Carol" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark"
Date: 5/29/2011 6:57 AM
Subject: Rough Canyon Federal 30-1 Update

5/29/2011 6:55 AM

Trip in hole with AutoTrak at 9530'. TD is 9660'.

Tom Zupan
Drilling Supervisor
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Carol Daniels - Rough Canyon Federal 30-1 Update

TIRS ROIE S-32 4303950003

From: "Wolverine Exploration Rig"
To: "Hendricks, Marvin" , "Knight, Randy" , , "Willis, Walton" , "Willis, Walton Home" ,
"Daniels, Carol" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark"
Date: 5/30/2011 7:34 AM
Subject: Rough Canyon Federal 30-1 Update

5/30/2011 7:31 AM

Drilling at 9780'.

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Carol Daniels - Rough Canyon Federal 30-1 Update

TIPS ROIE S-32 43-039-50003

From: "Wolverine Exploration Rig"
To: ""Hendricks, Marvin"" , "Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home"" ,
""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark"
Date: 5/31/2011 7:01 AM
Subject: Rough Canyon Federal 30-1 Update

5/31/2011 6:58 AM

Drilling at 9911'

Tom Zupan
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Carol Daniels - Rough Canyon Federal 30-1 Update

T 17S R 01E S-32 43-039-50003

From: "Wolverine Exploration Rig"

To: "Hendricks, Marvin" , "Knight, Randy" , , "Willis, Walton" , "Willis, Walton Home" ,
"Daniels, Carol" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark"

Date: 6/1/2011 6:53 AM

Subject: Rough Canyon Federal 30-1 Update

6/1/2011 6:50 AM

Drilling at 10,042'

Tom Zupan

Drilling Supervisor

Wolverine Gas and Oil Company of Utah, LLC

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Carol Daniels - Rough Canyon Federal 30-1 Update

T175 R01E S-32 43-039-50043

From: "Wolverine Exploration Rig"
To: "Hendricks, Marvin" , "Knight, Randy" , , "Willis, Walton" , "Willis, Walton Home" ,
"Daniels, Carol" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark"
Date: 6/2/2011 8:36 AM
Subject: Rough Canyon Federal 30-1 Update

6/2/2011 8:34 AM

Drilling at 10160'

Tom Zupan
Drilling Supervisor
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DIV. OF OIL, GAS & MINING

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-82536
		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
		7. UNIT or CA AGREEMENT NAME:
1. TYPE OF WELL Oil Well		8. WELL NAME and NUMBER: ROUGH CANYON FED 30-1
2. NAME OF OPERATOR: WOLVERINE OPERATING COMPANY OF UTAH, LLC		9. API NUMBER: 43039500030000
3. ADDRESS OF OPERATOR: One Riverfront Plaza 55 Campau NW, Grand Rapids, MI, 49503		9. FIELD and POOL or WILDCAT: WILDCAT
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0288 FNL 0452 FWL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWNW Section: 32 Township: 17.0S Range: 01.0E Meridian: S		COUNTY: SANPETE
		STATE: UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
TYPE OF SUBMISSION	TYPE OF ACTION	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> ALTER CASING	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CASING REPAIR	
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 5/31/2011	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	
	<input type="checkbox"/> CHANGE TUBING	
	<input type="checkbox"/> CHANGE WELL STATUS	
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	
	<input type="checkbox"/> DEEPEN	
	<input type="checkbox"/> FRACTURE TREAT	
	<input type="checkbox"/> OPERATOR CHANGE	
	<input type="checkbox"/> PLUG AND ABANDON	
	<input type="checkbox"/> PRODUCTION START OR RESUME	
	<input type="checkbox"/> RECLAMATION OF WELL SITE	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> VENT OR FLARE	
	<input type="checkbox"/> WATER SHUTOFF	
	<input type="checkbox"/> SI TA STATUS EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	
	<input type="checkbox"/> OTHER: <input style="width: 100px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. Please see attached document for May 2011 drilling details.		
Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY		
NAME (PLEASE PRINT) Helene Bardolph		PHONE NUMBER 616 458-1150
SIGNATURE N/A		TITLE Engineering Administrative Assistant
		DATE 6/7/2011

Subject: Wolverine Operating Company of Utah, LLC
Rough Canyon Federal 30-1
NW¼ NW¼ Sec 32-T17S-R1E surface location
NE¼ SE¼ Sec 30-T17S-R1E Projected BHL
Sanpete County, Utah

1 May 2011

Depth 9056' DF, 13. @ 3769' DF. Drill & survey. MW – 8.8, Vis. – 43, FL – 7.8. Surveys: 10.5° @ 9002'.

2 May 2011

Depth 9143' DF, 13. @ 3769' DF. Drill & survey, TFNB. MW – 8.8, Vis. – 61, FL – 8.9. Surveys: 10.9° @ 9096'.

3 May 2011

Depth 9192' DF, 13. @ 3769' DF. TFNB, ream to bottom, drill. MW – 8.8, Vis. – 45, FL – 9.1. Surveys: none.

4 May 2011

Depth 9287' DF, 13. @ 3769' DF. Drill & survey. MW – 8.8, Vis. – 51, FL – 7.5. Surveys: 10.7° @ 9205'.

5 May 2011

Depth 9351' DF, 13. @ 3769' DF. Drill & survey. MW – 8.9, Vis. – 49, FL – 5.1. Surveys: 10.9° @ 9286'.

6 May 2011

Depth 9398' DF, 13. @ 3769' DF. Drill to 9366', 15 stand short trip, drill. MW – 8.8, Vis. – 51, FL – 8. Surveys: none.

7 May 2011

Depth 9480' DF, 13. @ 3769' DF. Drill & survey. MW – 8.8, Vis. – 54, FL – 7.5. Surveys: 10.8° @ 9378'.

8 May 2011

Depth 9482' DF, 13. @ 3769' DF. Drill, POOH for logs & casing. MW – 8.8, Vis. – 52, FL – 7.5. Surveys: none.

9 May 2011

Depth 9482' DF, 13. @ 3769' DF. Left cones in hole, magnet run, log w/ Halliburton, GIH w/ concave mill and junk baskets. MW – 8.75, Vis. – 58, FL – 6.6. Surveys: none.

10 May 2011

Depth 9482' DF, 13. @ 3769' DF. Ream tight spots, mill on junk, POOH, work tight spots, POOH, rig repair. MW – 8.8, Vis. – 47, FL – 7.5. Surveys: none.

11 May 2011

Depth 9483' DF, 13. @ 3769' DF. GIH for C&C, C&C, POOH, LD jars & x-o's, RU casers, run 9-5/8" casing. MW – 8.8, Vis. – 64, FL – 7.5. Surveys: none.

12 May 2011

Depth 9483' DF, 13. @ 3769' DF. Damaged shoe jt during make up, wait on replacement cementing shoe, run 9-5/8 casing. MW – 8.8, Vis. – 47, FL – 8. Surveys: none.

13 May 2011

Depth 9483' DF, 9. @ 9470' DF. Run 9. casing to 9469.52' DF, C&C, cement w/ Schlumberger. MW – 8.75, Vis. – 43, FL – 7.5. Surveys: none.

14 May 2011

Depth 9483' DF, 9. @ 9470' DF. WOC, cut off pipe, weld on bradenhead, NU BOP's. MW – 8.75, Vis. – 44, FL – 8. Surveys: none.

15 May 2011

Depth 9494' DF, 9. @ 9470' DF. Test BOP's, lay out & strap BHA, GIH to 3489', drill stage collar, GIH, drill cmt collar, shoe jts and shoe, drill to 9494' DF. MW – 8.7, Vis. – 44, FL – 8. Surveys: none.

16 May 2011

Depth 9494' DF, 9. @ 9470' DF. C&C, conduct leak-off test to 14.2 ppg EMW, pump pill, POOH, RU Baker truck, run Gyrodata gyro survey 4200' to 2000', RU Baker seismic, run VSP log. MW – 8.8, Vis. – 52, FL – 7.5. Surveys: none.

17 May 2011

Depth 9494' DF, 9. @ 9470' DF. Run VSP open hole log, RU Zeco solids control equip, RU Katch Kan equip, PU BHA, move OBM to active system, GIH. MW – 11.6, Vis. – 78, FL – 9.8. Surveys: none.

18 May 2011

Depth 9494' DF, 9. @ 9470' DF. Displace WBM w/ OBM, run leak-off test to 13 ppg, lost returns, lost 120 bbl OBM, POOH, stand back directional tools, GIH w/ packer, set at 3657', test annulus to 750 psi/30 min, OK, test drill pipe, losing mud, GIH w/ pkr. MW – 11.2, Vis. – 46, FL – 8.2. Surveys: none.

19 May 2011

Depth 9494' DF, 9. @ 9470' DF. Set pkr at 9362' DF, test csg to 700 psi/30min, OK, C&C, reduce MW from 11.6 to 10.6 ppg, POOH, LD pkr, GIH w/ directional tools. MW – 10, Vis. – 49, FL – 6.4. Surveys: none.

20 May 2011

Depth 9498' DF, 9. @ 9470' DF. Test MWD, GIH, drill, losing 10 bbl mud/hr, lower MW to 10.2 ppg, work on mud losses, POOH, LD BHA, PU tooth bit & junk basket. MW – 10, Vis. – 36, FL – 6.8. Surveys: none.

21 May 2011

Depth 9498' DF, 9. @ 9470' DF. GIH, build LCM pill, spot on bottom, monitor well, C&C, . MW – 9.2, Vis. – 48, FL – nil. Surveys: none.

22 May 2011

Depth 9505' DF, 9. @ 9470' DF. C&C, drill, spot pill, POOH, PU directional BHA, GIH. MW – 9, Vis. – 47, FL – nil. Surveys: none.

23 May 2011

Depth 9576' MD, 9% @ 9470' DF. Drill & survey. MW – 9, Vis. – 46, FL – nil. Surveys: 11.1° @ 9487'.

24 May 2011

Depth 9650' MD, 9% @ 9470' DF. Drill & survey. MW – 9, Vis. – 47, FL – nil. Surveys: 11.3° @ 9520' & 11.1° @ 9574'.

25 May 2011

Depth 9654' MD, 9% @ 9470' DF. Drill, mud losses unsustainable, POOH, RU Schlumberger loggers, run cement imaging log over length of 9-5/8 casing. MW – 9, Vis. – 51, FL – nil. Surveys: none.

26 May 2011

Depth 9654' MD, 9% @ 9470' DF. GIH w/ Halliburton pkr, set pkr at 3422', test back side to 700 psi/30 min, held ok, losing mud below pkr, move pkr to 5029', test annulus to 700 psi/30 min, held ok, losing mud below pkr, POOH w/ pkr, GIH open ended. MW – 9.1, Vis. – 52, FL – nil. Surveys: none.

27 May 2011

Depth 9654' MD, 9% @ 9470' DF. GIH open ended to 9632', spot cement pill, pump 15 bbl spacer, 35.3 bbl cement, 5.7 bbl spacer, displace w/ 126 bbl OBM, POOH 30 stands, fill hole w/ OBM, shut in well and pressure up to 350 psi, pressure bled off to 324 psi, WOC. MW – 9, Vis. – 51, FL – nil. Surveys: none.

28 May 2011

Depth 9654' MD, 9% @ 9470' DF. Hold pressure, pressure dropped to 312 psi, bleed off pressure, POOH, GIH w/ mill tooth bit slick, W&R, circulate at 420 gpm, losing mud at 33 bph, C&C @ 210 gpm, losing mud at 0 bph, spot 60 bbl Strata Vanguard LCM pill, wait on LCM pill to soak, GIH to 9600'. MW – 9.1, Vis. – 48, FL – nil. Surveys: none.

29 May 2011

Depth 9660' DF, 9% @ 9470' DF. Drill, still losing mud, reduce MW to 8.5 ppg, drill, POOH, PU directional tools, GIH. MW – 8.5, Vis. – 46, FL – nil. Surveys: none.

30 May 2011

Depth 9771' DF, 9% @ 9470' DF. GIH, W&R, drill & survey. MW – 8.5, Vis. – 46, FL – nil. Surveys: 11.1° @ 9603', 10.9° @ 9634', 11.3° @ 9666' & 11.1° @ 9698'.

31 May 2011

Depth 9901' MD, 9% @ 9470' DF. Drill & survey. MW – 8.5, Vis. – 44, FL – nil. Surveys: 11.2° @ 9730', 11.3° @ 9762', 11.2° @ 9793' & 11.2° @ 9825'.

Carol Daniels - Rough Canyon Federal 30-1 Update

T173 ROIE S-32 43-039-5003

From: "Wolverine Exploration Rig"
To: "Hendricks, Marvin" , "Knight, Randy" , , "Willis, Walton" , "Willis, Walton Home" ,
"Daniels, Carol" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark"
Date: 6/3/2011 6:36 AM
Subject: Rough Canyon Federal 30-1 Update

6/3/2011 6:32 AM

Drilled to 10,229'. Tripped out. Changing out directional tools and bit.

Tom Zupan
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Carol Daniels - Rough Canyon Federal 30-1 Update

TIPS ROIE 5-32 43-039-50003

From: "Wolverine Exploration Rig"
To: ""Hendricks, Marvin"" , "Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home"" ,
""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark"
Date: 6/4/2011 7:05 AM
Subject: Rough Canyon Federal 30-1 Update

6/4/2011 7:02 AM

Drilling at 10293'

Tom Zupan
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Carol Daniels - Rough Canyon Federal 30-1 Update

TIPS R01E S-32 43-03950003

From: "Wolverine Exploration Rig"
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""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark"
Date: 6/6/2011 6:28 AM
Subject: Rough Canyon Federal 30-1 Update

6/6/2011 6:22 AM

TD 10542'. Letting open hole LCM pill soak with bit at 9440'.

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CONFIDENTIAL**Carol Daniels - Rough Canyon Federal 30-1 Update***T17S R01E 5-32 43-039-5003*

From: "Wolverine Exploration Rig"
To: ""Hendricks, Marvin"" , "Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home"" ,
""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , ""Jones, Mark""
Date: 6/7/2011 6:43 AM
Subject: Rough Canyon Federal 30-1 Update

6/7/2011 6:37 AM

Drilling at 10590'.

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Carol Daniels - Rough Canyon Federal 30-1 Update

T17S ROIE S-32 43 03950003

From: "Wolverine Exploration Rig"
To: ""Hendricks, Marvin"" , "Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home"" ,
""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , ""Jones, Mark""
Date: 6/8/2011 6:37 AM
Subject: Rough Canyon Federal 30-1 Update

6/8/2011 6:33 AM

Trip out for BHA at 1010'

Tom Zupan
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Carol Daniels - Rough Canyon Federal 30-1 Update

T77C ROLF 5-32 43039-50003

From: "Wolverine Exploration Rig"
To: ""Hendricks, Marvin"" , "Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home"" ,
""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark"
Date: 6/9/2011 6:51 AM
Subject: Rough Canyon Federal 30-1 Update

6/9/2011 6:47 AM

Drilling at 10720'.

Tom Zupan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rig (970) 361-3276
Cell (970) 314-8219

wolvexpl@drillmail.net

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Carol Daniels - Rough Canyon Federal 30-1 Update

TIPS ROLE S-32 43-039-50003

From: "Wolverine Exploration Rig"
To: ""Hendricks, Marvin"" , "Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home"" ,
""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , ""Jones, Mark""
Date: 6/10/2011 6:45 AM
Subject: Rough Canyon Federal 30-1 Update

6/10/2011 6:42 AM

Slide drilling @ 10859'.

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Carol Daniels - Rough Canyon Federal 30-1 Update*T175 ROIE 5-32 43-039-50003*

From: "Wolverine Exploration Rig"
To: ""Hendricks, Marvin"" , "Knight, Randy" , , ""Willis, Walton"" , ""Willis, Walton Home"" ,
""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark"
Date: 6/11/2011 10:47 AM
Subject: Rough Canyon Federal 30-1 Update

6/11/2011 10:30 AM

TOH for new bit at 10,972'. Total Safety called to rig up monitoring equipment during trip. IPS called for 30-day BOP stack test while out of hole. BOP stack last tested 5/14.

Possibly cut fault and drilled sandstone. No Twin Creek seen in samples. Geologists reviewing correlation.

Bill Donovan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rough Canyon Federal 30-1, AFE 224
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Carol Daniels - Rough Canyon Federal 30-1 Update

TINS ROLESBJ 43-039-50003

From: "Wolverine Exploration Rig"
To: "Hendricks, Marvin" , "Knight, Randy" , , "Willis, Walton" , "Willis, Walton Home" ,
"Daniels, Carol" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark"
Date: 6/12/2011 11:34 AM
Subject: Rough Canyon Federal 30-1 Update

6/12/2011 11:27 AM

Slide drilling at 10,976', PR 4 fph

Bill Donovan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
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Page 1 of 1

Carol Daniels - Rough Canyon Federal 30-1 Update

T17S R01E S-32 43-039.50003

From: "Wolverine Exploration Rig"
To: ""Hendricks, Marvin"" , ""Knight, Randy"" , , ""Willis, Walton"" , ""Willis, Walton Home"" ,
""Daniels, Carol"" , ""Doucet, Dustin"" , ""Jarvis, Dan"" , ""Jones, Mark""
Date: 6/13/2011 7:30 AM
Subject: Rough Canyon Federal 30-1 Update

6/13/2011 7:27 AM

Short trip at 11,085', PR 8 fph, drilling SS

Plan to log at 11,400'

Bill Donovan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
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Carol Daniels - Rough Canyon Federal 30-1 Notification of open hole logging*T 175 R01E S-32 43-039-50003*

From: "Wolverine Exploration Rig"
To: ""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , ""Jones, Mark"" , "Angela Wadman" ,
""Hendricks, Marvin"" , "Knight, Randy" , , "Sue Wiler"
Date: 6/14/2011 4:01 PM
Subject: Rough Canyon Federal 30-1 Notification of open hole logging

6/14/2011 3:43 PM

Circulating bottoms up at 11,204', seep 20 bph

Plan to short trip to shoe, wait and check hole, trip to bottom, break circulation, TOH to open hole log

Bill Donovan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rough Canyon Federal 30-1, AFE 224
You must be clean shaven and have a valid H2S card
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Page 1 of 1

Carol Daniels - Rough Canyon Federal 30-1 Update

TINS ROLE 5-32 43-039-50003

From: "Wolverine Exploration Rig"
To: "Angela Wadman" , "Hendricks, Marvin" , "Knight, Randy" , , "Sue Wiler" , "Daniels, Carol" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark"
Date: 6/14/2011 9:24 AM
Subject: Rough Canyon Federal 30-1 Update

6/14/2011 9:21 AM

Hole depth 11,175'

Spotted LCM pill

Bill Donovan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rough Canyon Federal 30-1, AFE 224
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Carol Daniels - Rough Canyon Federal 30-1 Update

T17S R01E S-32 43 03950003

From: "Wolverine Exploration Rig"
To: "Angela Wadman" , "Hendricks, Marvin" , "Knight, Randy" , , "Sue Wiler" , "Daniels, Carol" , "Doucet, Dustin" , "Jarvis, Dan" , "Jones, Mark"
Date: 6/15/2011 11:32 AM
Subject: Rough Canyon Federal 30-1 Update

6/15/2011 11:28 AM

Rigging up Halliburton loggers. TD 11,204'

A casing point decision on this well will be made later today.

Bill Donovan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rough Canyon Federal 30-1, AFE 224
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JUN 15 2011

DIV. OF OIL, GAS & MINING

Carol Daniels - Rough Canyon Federal 30-1 update

T175 ROLF S-32 43 037.50003

From: "Wolverine Exploration Rig"
To: ""Well Info"" , "Angela Wadman" , ""Hendricks, Marvin"" , "Knight, Randy" , , "Sue Wiler" ,
""Daniels, Carol"" , "Doucet, Dustin" , "Jarvis, Dan" , ""Jones, Mark""
Date: 6/16/2011 8:17 AM
Subject: Rough Canyon Federal 30-1 update

6/16/2011 8:13 AM

Waiting on Orders.

A decision is expected this morning

Bill Donovan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rough Canyon Federal 30-1, AFE 224
You must be clean shaven and have a valid H2S card
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wolvexpl@drillmail.net

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Form 3160-4
(April 2004)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

FORM APPROVED
OMB NO. 1004-0137
Expires: March 31, 2007

1a. Type of Well <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Dry <input type="checkbox"/> Other		5. Lease Serial No. UTU-82536	
b. Type of Completion: <input type="checkbox"/> New Well <input type="checkbox"/> Work Over <input type="checkbox"/> Deepen <input type="checkbox"/> Plug Back <input type="checkbox"/> Diff. Resrv., Other Plug and Abandon		6. If Indian, Allottee or Tribe Name N.A.	
2. Name of Operator Wolverine Operating Company of Utah, LLC		7. Unit or CA Agreement Name and No. N.A.	
3. Address 55 Campau NW, Grand Rapids, MI 49503		8. Lease Name and Well No. Rough Canyon Federal 30-1	
3a. Phone No. (include area code) 616-458-1150		9. AFI Well No. 43039500030000	
4. Location of Well (Report location clearly and in accordance with Federal requirements)* At surface 288' FNL, 452' FWL, Sec 32, T17s, R1E, NWNW At top prod. interval reported below At total depth 149' FNL, 390' FEL, Sec 31, T17S, R1E,		10. Field and Pool, or Exploratory Exploratory	
14. Date Spudded 08/29/2010		15. Date T.D. Reached 06/14/2011	
16. Date Completed 06/14/11 <input checked="" type="checkbox"/> D & A <input type="checkbox"/> Ready to Prod.		17. Elevations (DF, RKB, RT, GL)* DF 6192.5	
18. Total Depth: MD 11204 TVD 10943		19. Plug Back T.D.: MD TVD	
20. Depth Bridge Plug Set: MD TVD		21. Type Electric & Other Mechanical Logs Run (Submit copy of each) DLL, Dipmeter, Sonic, SD/DSN, BVP	
22. Was well cored? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Submit analysis) Was DST run? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Submit report) Directional Survey? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes (Submit copy)			

23. Casing and Liner Record (Report all strings set in well)

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sks. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
38"	32" .375	conductr	0	75'		200 sks	41	surface	
26	22" .50	conductr	0	1421'		1788s clss G	373	surface	
19"	13 3/8	68	0	3769'		1451s poz/txi	925	surface	
	P-110					3107s clss G			
12.25"	9 5/8 L80	53.5		9470	3575'	see #32-below			
						see #32-below		surface	

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)

25. Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A)						
B)						
C)						
D)						

27. Acid, Fracture, Treatment, Cement Squeeze, etc.

Depth Interval	Amount and Type of Material

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28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status	
			→						

28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status	
			→						

*(See instructions and spaces for additional data on page 2)

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28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status	

28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status	

29. Disposition of Gas (Sold, used for fuel, vented, etc.)

30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top Meas. Depth
Navajo	10873 MD	11204 TD		Colton Flagstaff North Horn Indianola Cedar Mountain Arapien Twin Creek Navajo	Surface 56 290 3200 6981 9790 10470 10873

32. Additional remarks (include plugging procedure):

- 1) Item #23. 9 5/8" cement details -- cmt stage 1: 1320 sks class G + 625 sx txi lite; stage 2: 625 sks class G
- 2) See attached summary of cement plugs set to abandon well.

33. Indicate which items have been attached by placing a check in the appropriate boxes:

- ☒ Electrical/Mechanical Logs (1 full set req'd.)
 ☒ Geologic Report
 ☐ DST Report
 ☒ Directional Survey
☒ Sundry Notice for plugging and cement verification
☐ Core Analysis
☐ Other:

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions)*

Name (please print) **Edward A. Higuera**Title **Manager - Development**

Signature

Date **11/17/2011**

Title 18 U.S.C Section 1001 and Title 43 U.S.C Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

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Operator: Wolverine Operating Company of Utah, LLC
Well: Rough Canyon Federal 30-1
Surface Location: Section 32, T17S, R1E
API Number: 43039500030000
Lease: UTU-82536
County/State: Sanpete, UT
Re: Plugging/Cement Plug Record

Plugging requirements were obtained from Marvin Hendrick, BLM, and the following abandonment plugs were set in the well:

Plug1: Set cement retainer at 9385' MD (displaced OBM out of hole with 9 ppg fresh water mud) and pumped plug #1 under retainer with 10 bbls water spacer, 17 bbls/84 sacks, 15.8 ppg, yield 1.16 cu. Ft/sack Class "G" cement, 10 bbls water spacer, then 124 bbls 9 ppg water based mud. Displaced 15 bbls below retainer and left 2 bbls cement on top of retainer. Pressure tested casing to 750 psi.

Plug 2: Set plug 2 at 6500'-6350 with 10 bbls water spacer, 10.6 bbls/52 sacks, 15.8 ppg, yield 1.16 cu. Ft/sack Class "G" cement (equivalent to 150 foot plug), and 3 bbls water spacer followed by 9 ppg FW mud.

Plug 3: Set 140-ft plug from 3845'-3705' with 10 bbls water spacer, 9.9 bbls/48 sacks, 15.8 ppg, yield 1.16 cu. Ft/sack Class "G" cement, 3 bbls water spacer followed by FW mud.

Set plug 4 at 1485' with 10 bbls water spacer, 7.8 bbls/38 sacks, 15.8 ppg, yield 1.16 cu. Ft/sack Class "G" cement, 3 bbls water followed by FW mud.

Set Plug 5 at surface with 3.2 bbls/16 sacks, 15.8 ppg, yield 1.16 cu.ft/sack Class G cement.

An above-ground post marker has been installed on the well location.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB No. 1004-0137
Expires: March 31, 2007**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE- Other instructions on reverse side.1. Type of Well ☐ Oil Well ☐ ☐ Gas Well ☐ ☐ Other2. Name of Operator **Wolverine Operating Company of Utah, LLC**3a. Address
55 Campau NW, Grand Rapids, MI 495033b. Phone No. (include area code)
616-458-1150

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

**SHL: 288' FNL, 452' FWL, Sec 32, T17S, R1E, NWNW
BHL: 149' FNL, 390' FEL, Sec 31, T17S, R1E, NENE**5. Lease Serial No.
UTU-8525366. If Indian, Allottee or Tribe Name
N/A7. If Unit or CA/Agreement, Name and/or No.
N/A8. Well Name and No.
Rough Canyon Federal 30-19. API Well No.
4303950003000010. Field and Pool, or Exploratory Area
Exploratory11. County or Parish, State
Sanpete, Utah**12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other Daily drilling reports
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

See attached chronological listing of all daily drilling reports.

RECEIVED**NOV 29 2011****DIV. OF OIL, GAS & MINING**14. I hereby certify that the foregoing is true and correct
Name (Printed/Typed)**Edward A. Higuera**Title **Manager - Development**

Signature

Date

11/18/2011**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved by

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Title

Date

Office

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

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Subject: Wolverine Operating Company of Utah, LLC
Rough Canyon Federal 30-1
NW¼ NW¼ Sec 32-T17S-R1E surface location
NE¼ SE¼ Sec 30-T17S-R1E BHL
Sanpete County, Utah.

28 - 29 August 2010

Depth 0' GL, no casing set. MIRURT. MW – none, Vis. – none, FL –N/A. Surveys: none.

30 August 2010

Depth 1' GL, no casing set. MIRURT, spud at 1700 hrs, 8/29/10 w/ 38" bit. MW – 8.8, Vis. – 53, FL – not controlled. Surveys: none.

31 August 2010

Depth 15' GL, no casing set. Drill to 15' w/ 38" bit. MW – 8.8, Vis.– 53, FL – not controlled. Surveys: none.

1 September 2010

Depth 44' GL, no casing set. Drill to 44' GL. MW – 8.8, Vis. – 53, FL – not controlled. Surveys: none.

2 September 2010

Depth 69' GL, no casing set. Drill to 69' GL. MW – 8.8, Vis. – 53, FL – not controlled. Surveys: ½ degree @ 55'.

3 September 2010

Depth 75' GL, 32" x ." wall @ 75' GL. Drill to 76', POOH, run 32" casing to 75' GL, run tremmie pipe, pump 25 sx Neat mixed at 15.6 ppg, WOC, run tremmie pipe, tag cmt at 68' GL, mix cement. MW – 8.8, Vis. – 53, FL – not controlled. Surveys: none.

4 September 2010

Depth 79' GL, 32" x ." wall @ 75' GL. Pump 125 sx Neat mixed at 15.3 pg, WOC, run tremmie pipe, tag cmt at 51', mix & pump 50 sx Neat mixed at 15.3 ppg, filled to GL, did not fall back, WOC, PU 26" bit & BHA, RU rotary table, hook up flow lines, GIH, tag cmt @ 68' GL, drill cmt from 68' to 75', drill to 79', POOH to change top sub. MW – 8.8, Vis. – 60, FL – not controlled. Surveys: none.

5 September 2010

Depth 79' GL, 32" x ." wall @ 75' GL. POOH, add DC's, GIH, drill to 133', POOH, PU DC's, drill to 170'. MW – 8.7, Vis. – 60, FL – not controlled. Surveys: none.

6 September 2010

Depth 298' GL, 32" x ." wall @ 75' GL. Drill to 250' GL, C&C, survey, drill to 290', survey, switch to reverse circulation, drill to 298' GL. MW – 9.3, Vis. – 46, FL – 8. Surveys: 1 degree @ 110', 1 degree @ 220' & 1 degree @ 250'.

7 September 2010

Depth 390' GL, 32" x ." wall @ 75' GL. Drill to 330, survey, drill to 390, attempt survey, tool separated from wire line, POOH, remove survey tool, GIH. MW – 9.3, Vis. – 43, FL – 9. Surveys: 1 degree @ 10', 1.25 degrees @ 300'.

8 September 2010

Depth 494' GL, 32" x ." wall @ 75' GL. GIH, survey, C&C, drill to 430, survey, drill to 470, C&C,

survey, drill to 494'. MW – 9, Vis. – 42, FL – 9. Surveys: 0.25 degrees @ 100', 0.25 degrees @ 200', 0.75 degrees @ 390' & 0.25 degrees @ 440'.

9 September 2010

Depth 585' GL, 32" x ." wall @ 75' GL. Drill to 510', survey, drill to 550', losing mud @ 100 bbl/hr, survey, drill to 585'. MW – 8.7, Vis. – 40, FL – 14. Surveys: 1 degree @ 480' & 1.5 degrees @ 520'.

10 September 2010

Depth 671' GL, 32" x ." wall @ 75' GL. Drill to 590', losing 20 bbl/hr mud, C&C, survey, drill to 630', C&C, survey, drill to 670', started losing returns at 648, lost all returns at 670', survey, drill to 671, still losing all returns, POOH. MW – 8.7, Vis. – 45, FL – 14. Surveys: 1 degree @ 560', 1 degree @ 600' & 1½ degrees @ 640'.

11 September 2010

Depth 705' GL, 32" x ." wall @ 75' GL. POOH, LD some DC's, GIH, pump LCM slugs, drill to 674', losing 50 bbl/hr mud, drill to 678', losing 50 bbl/hr, drill to 705' lost all returns, mix mud & LCM. MW – 8.7, Vis. – 51, FL – 14. Surveys: none.

12 September 2010

Depth 752' GL, 32" x ." wall @ 75' GL. Mix & pump LCM slugs, drill to 714', losing 25 bbl/hr mud, C&C, drill to 734', losing 50 bbl/hr mud, C&C, survey, drill to 746', losing 75 bbl/hr mud, lost total returns at 746', mix LCM slugs, lost 400 bbl mud, drill to 750', losing 90 bbl/hr mud, lost all returns at 750', lost 300 bbl mud, drill to 751', losing 125 bbl/hr mud, lost all returns at 750', lost 350 bbl mud, drill to 752', losing 125 bbl/hr, mis LCM slugs. MW – 8.7, Vis. – 51, FL – 14. Surveys: 2¼ degrees @ 700'.

13 September 2010

Depth 762' GL, 32" x ." wall @ 75' GL. Mix & pump LCM slugs, drill to 754', losing 125 bbl/hr mud, survey, lost returns, TFNB, establish partial circulation, drill to 762', losing 75 bbl/hr . MW – 8.9, Vis. – 55, FL – 14. Surveys: 1¾ degrees @ 720'.

14 September 2010

Depth 803' GL, 32" x ." wall @ 75' GL. Drill to 775', losing 75bbl/hr mud, survey, drill to 785', losing 125 bbl/hr mud, drill to 803', lost returns, mix & pump slugs, attempt to drill blind, discontinued due to high torque, mix & pump LCM slugs. MW – 8.6, Vis.– 40, FL – not controlled. Surveys: 1 degree @ 740'.

15 September 2010

Depth 856' GL, 32" x ." wall @ 75' GL. Mix & pump mud + LCM slugs, PU 20' off bottom, switch to conventional circulation, drill to 856 w/ no returns, losing 75 bbl/hr mud. MW – 8.8, Vis. – 70, FL – NC. Surveys: none.

16 September 2010

Depth 916' GL, 32" x ." wall @ 75' GL. Drill to 916', losing 100 bbl/hr mud. MW – 8.8, Vis. – 70, FL – NC. Surveys: none.

17 September 2010

Depth 971' GL, 32" x ." wall @ 75' GL. Drill to 935, C&C, survey, drill to 971'. MW – 8.6, Vis. – 68, FL – NC. Surveys: 1¾ degrees @ 880'.

18 September 2010

Depth 1047' GL, 32" x ." wall @ 75' GL. Drill blind to 1015, survey, drill blind to 1047'. MW – 8.9, Vis. – 68, FL – NC. Surveys: 1 degrees @ 950'.

19 September 2010

Depth 1140' GL, 32" x ." wall @ 75' GL. Drill & survey, circulate conventional, losing 125 bbl/hr mud. MW – 8.6, Vis. – 93, FL – NC. Surveys: 2 degrees @ 1020' & 2° @ 1060'.

20 September 2010

Depth 1228' GL, 32" x ." wall @ 75' GL. Drill & survey, circulate conventional, losing 125 bbl/hr mud. MW – 8.6, Vis. – 84, FL – NC. Surveys: 2½° @ 1100' & 2° @ 1140'.

21 September 2010

Depth 1235' GL, 32" x ." wall @ 75' GL. Drill to 1235', C&C, found fluid level in hole, POOH to 975', switch to flooded reverse circulating method, wash back to 1215', POOH. MW – 8.6, Vis. – 62, FL – NC. Surveys: 1¾° @ 1180'.

22 September 2010

Depth 1280' GL, 32" x ." wall @ 75' GL. PU new bit, GIH, drill. MW – 8.9, Vis. – 44, FL – NC. Surveys: none.

23 September 2010

Depth 1371' GL, 32" x ." wall @ 75' GL. Drill & survey, circulate w/flooded reverse method.. MW – 8.9, Vis. – 43, FL – NC. Surveys: 1½° @ 1220', 2½° @ 1260', 2° @ 1280' & 1¼° @ 1300'.

24 September 2010

Depth 1425' GL, 32" x ." wall @ 75' GL. Drill & survey to TD at 1425', C&C, POOH, LDDP & BHA, clean up tools, tongs & wrenches. MW – 9.1, Vis. – 45, FL – NC. Surveys: 2° @ 1360'.

25 September 2010

Depth 1425' GL, 32" x ." wall @ 75' GL. Prep to run casing, cut off 32" csg, set landing plate, run 22" x ½" wall casing to 840'. MW – 8.8, Vis. – 45, FL – NC. Surveys: none.

26 September 2010

Depth 1425' GL, 32" x ." wall @ 75' GL. Run casing to 900', wait on crane, RU 250 ton crane, run casing to 1421', RD crane. MW – 8.8, Vis. – 45, FL – NC. Surveys: none.

27 September 2010

Depth 1425' GL, 22" x ½" wall @ 1421' GL. Fluid level at 778', pump to clear 1. tremmie pipe, (1) mix & pump 44 sx (1.17 cf/sk) Cl. "G" cement + 4% CaCl₂ mixed @ 15.4 ppg, POOH, WOC, tag cmt @ 1375', (2) mix & pump 44 sx (1.17 cf/sk) Cl. "G" cement + 4% CaCl₂ mixed @ 15.4 ppg, POOH, WOC, tag cmt @ 1325', (3) mix & pump 44 sx (1.17 cf/sk) Cl. "G" cement + 4% CaCl₂ mixed @ 15.4 ppg, POOH, WOC, tag cmt @ 1265', POOH w/ tremmie pipe to clear plugged pipe, GIH w/ tremmie pipe, tag cmt @ 1263', MW – 8.8, Vis. – 45, FL – NC. Surveys: none.

28 September 2010

Depth 1425' GL, 22" x ½" wall @ 1421' GL. (4) mix & pump 44 sx (1.17 cf/sk) Cl. "G" cement + 4% CaCl₂ mixed @ 15.4 ppg, POOH, WOC, tag cmt @ 1175', (5) mix & pump 44 sx (1.17 cf/sk) Cl. "G" cement + 4% CaCl₂ mixed @ 15.4 ppg, POOH, WOC, tag cmt @ 1095', (6) mix & pump 275 sx (1.17 cf/sk) Cl. "G" cement + 3% CaCl₂ mixed @ 15.5 ppg, POOH, WOC, tag cmt @ 760', (7) mix & pump 325 sx (1.17 cf/sk) Cl. "G" cement + 2% CaCl₂ mixed @ 15.3 ppg, POOH, WOC, tag cmt @ 480', (8)

mix & pump 44 sx (1.17 cf/sk) Cl. "G" cement + 2% CaCl₂ mixed @ 15.3 ppg, MW – 8.8, Vis. – 45, FL – NC. Surveys: none.

29 September 2010

Depth 1371' GL, 22" x ½" wall @ 1421' GL. (8 continued) Tag cement at 472', (9) mix & pump 44 sx (1.17 cf/sk) Cl. "G" cement + 4% CaCl₂ mixed @ 15.4 ppg, POOH, WOC, tag cmt @ 470', (10) mix & pump 325 sx (1.17 cf/sk) Cl. "G" cement + 3% CaCl₂ mixed @ 15.4 ppg, POOH, WOC, tag cmt @ 330', (11) mix & pump 165 sx (1.17 cf/sk) Cl. "G" cement + 3% CaCl₂ mixed @ 15.5 ppg, POOH, WOC, tag cmt @ 185', (12) mix & pump 325 sx (1.17 cf/sk) Cl. "G" cement + 3% CaCl₂ mixed @ 15.3 ppg, POOH, WOC, tag cmt @ 35', (13) mix & pump 65 sx (1.17 cf/sk) Cl. "G" cement + 3% CaCl₂ mixed @ 15.3 ppg, circulate to surface, cement standing at surface, WOC, RDRT, MW – 8.8, Vis. – 45, FL – NC. Surveys: none.

30 September 2010

Depth 1425' GL, 22" x ½" wall @ 1421' GL. RDRT, PU air hammer, drill mouse hole for big rig, RDMO Boart Longyear LK-12 rig. MW – 8.8, Vis. – 45, FL – NC. Surveys: none.

1 October 2010

Depth 1425' GL, 22" x ½" wall @ 1421' GL. RDMO Boart Longyear rig LK-12, prepare pad for Boart Longyear rig LM-700. MW – nr, Vis. – nr, FL – nr. Surveys: none.

2 October 2010

Depth 1425' GL, 22" x ½" wall @ 1421' GL. Prepare pad, start mobilizing Boart Longyear rig LM-700. MW – nr, Vis. – nr, FL – NC. Surveys: none.

3 October 2010

Depth 1425' GL, 22" x ½" wall @ 1421' GL. Mobilizing Boart Longyear rig LM-700. MW – nr, Vis. – nr, FL – NC. Surveys: none.

4 October 2010

Depth 1425' GL, 22" x ½" wall @ 1421' GL. Mobilizing Boart Longyear rig LM-700. MW – nr, Vis. – nr, FL – NC. Surveys: none.

5 October 2010 – 11 October 2010

Depth 1425' GL, 22" x ½" wall @ 1421' GL. MIRURT Boart-Longyear rig LM-700. MW – nr, Vis. – nr, FL – nr. Surveys: none.

12 October 2010

Depth 1425' GL, 22" x ½" wall @ 1421' GL. Finalize rig up, PU BHA & drill pipe. MW – nr, Vis. – nr, FL – nr. Surveys: none.

13 October 2010

Depth 1453' GL, 22" x ½" wall @ 1421' GL. PU drill pipe, C&C, drill cement 1439-48, drill. MW – 8.8, Vis. – 45, FL – no control. Surveys: none.

14 October 2010

Depth 1586' GL, 22" x ½" wall @ 1421' GL. Drilling. MW – 8.9, Vis. – 42, FL – 6.8. Surveys: none.

15 October 2010

Depth 1720' GL, 22" x ½" wall @ 1421' GL. Drill & survey. MW – 9.0, Vis. – 48, FL – 6.6. Surveys: 3° @ 1525' & 3° @ 1581'.

16 October 2010

Depth 1720' GL, 22" x ½" wall @ 1421' GL. Drill & survey. MW – 8.9, Vis. – 51, FL – 6.8. Surveys: 4° @ 1660', 3¼° @ 1691' & 4° @ 1721'.

17 October 2010

Depth 1864' GL, 22" x ½" wall @ 1421' GL. Drill & survey. MW – 8.8, Vis. – 53, FL – 8.2. Surveys: 4° @ 1755' & 3½° @ 1791'.

18 October 2010

Depth 1938' GL, 22" x ½" wall @ 1421' GL. Drill & survey. MW – 8.7, Vis. – 47, FL – 8. Surveys: 3¾° @ 1821' & 3¼° @ 1850'.

19 October 2010

Depth 2020' GL, 22" x ½" wall @ 1421' GL. Drill & survey, run gyro survey, drill, trip for new bit. MW – 8.7, Vis. – 55, FL – 8.8. Surveys: 3¾° @ 1960'.

20 October 2010

Depth 2040' GL, 22" x ½" wall @ 1421' GL. TFNB, change roller reamers, drill. MW – 8.7, Vis. – 51, FL – 6.6. Surveys: none.

21 October 2010

Depth 2201' GL, 22" x ½" wall @ 1421' GL. Drill & survey. MW – 8.9, Vis. – 53, FL – 8.8. Surveys: 3¾° @ 2046 & 3¾° @ 2116.

22 October 2010

Depth 2345' GL, 22" x ½" wall @ 1421' GL. Drill & survey. MW – 8.9, Vis. – 53, FL – 10. Surveys: 4° @ 2150, 4° @ 2216 & 4¾° @ 2280.

23 October 2010

Depth 2509' GL, 22" x ½" wall @ 1421' GL. Drill & survey. MW – 8.9, Vis. – 50, FL – 11. Surveys: 2¼° @ 2320' & 4¾° @ 2385'.

24 October 2010

Depth 2620' GL, 22" x ½" wall @ 1421' GL. Drill & survey. MW – 8.9, Vis. – 50, FL – 10.4. Surveys: 6° @ 2450' & 4½° @ 2519'.

25 October 2010

Depth 2629' GL, 22" x ½" wall @ 1421' GL. Drill to 2626, C&C, TFNB, drill. MW – 8.9, Vis. – 51, FL – 8.6. Surveys: none.

26 October 2010

Depth 2698' GL, 22" x ½" wall @ 1421' GL. Drill & survey. MW – 8.8, Vis. – 47, FL – 11. Surveys: 6° @ 2580.

27 October 2010

Depth 2700' GL, 22" x ½" wall @ 1421' GL. Drill & survey, TFNB. MW – 8.7, Vis. – 38, FL – 15.6. Surveys: 5¾° @ 2665.

28 October 2010

Depth 2700' GL, 22" x ½" wall @ 1421' GL. TIH w/ mill, ream bottom of hole, POOH, PU bit, GIH, ream 2691 to 2694. MW – 8.8, Vis. – 47, FL – 15.6. Surveys: none.

29 October 2010

Depth 2702' GL, 22" x ½" wall @ 1421' GL. Ream 2694-2700, TFNB, drill. MW – 8.6, Vis. – 58, FL – 16.4. Surveys: none.

30 October 2010

Depth 2780' GL, 22" x ½" wall @ 1421' GL. Drill. MW – 8.7, Vis. – 59, FL – 7. Surveys: none.

31 October 2010

Depth 2850' GL, 22" x ½" wall @ 1421' GL. Drill & survey. MW – 8.8, Vis. – 50, FL – 14.4. Surveys: 6° @ 2770'.

1 November 2010

Depth 2861' GL, 22" x ½" wall @ 1421' GL. Drill to 2861, TFNB. MW – 8.8, Vis. – 50, FL – 10.4. Surveys: none.

2 November 2010

Depth 2898' GL, 22" x ½" wall @ 1421' GL. GIH, wash & ream to bottom, drill. MW – 8.8, Vis. – 56, FL – 13.6. Surveys: none.

3 November 2010

Depth 2912' GL, 22" x ½" wall @ 1421' GL. Drill & survey, POOH looking for leaks in drill string. MW – 8.8, Vis. – 56, FL – 13.6. Surveys: 6° @ 2862.

4 November 2010

Depth 2912' GL, 22" x ½" wall @ 1421' GL. POOH, change bit, GIH, attempt to circulate on bottom, plugged string, POOH. MW – 8.8, Vis. – 56, FL – 13.6. Surveys: none.

5 November 2010

Depth 2959' GL, 22" x ½" wall @ 1421' GL. POOH, GIH building stands, drilling. MW – 8.7, Vis. – 55, FL – 11.2. Surveys: none.

6 November 2010

Depth 3049' GL, 22" x ½" wall @ 1421' GL. Drill & survey. MW – 8.9, Vis. – 55, FL – 8.4. Surveys: 6° @ 2920'.

7 November 2010

Depth 3102' GL, 22" x ½" wall @ 1421' GL. Drill & survey, POOH. MW – 8.9, Vis. – 57, FL – 12. Surveys: 5¼° @ 3000'.

8 November 2010

Depth 3123' GL, 22" x ½" wall @ 1421' GL. POOH for new bit, GIH, drill & survey. MW – 8.9, Vis. – 55, FL – 8.2. Surveys: 6° @ 3070'.

9 November 2010

Depth 3220' DF, 22" x ½" wall @ 1421' GL. Drill & survey. MW – 9, Vis. – 58, FL – 10. Surveys: 5° @ 3145'.

10 November 2010

Depth 3318' DF, 22" x ½" wall @ 1421' GL. Drill & survey. MW – 9, Vis. – 58, FL – 10.5. Surveys: none.

11 November 2010

Depth 3329' DF, 22" x ½" wall @ 1421' GL. Drill & survey, POOH, change bit, GIH. MW – 9, Vis. – 58, FL – 10.5. Surveys: 5¼° @ 3245'.

12 November 2010

Depth 3351' DF, 22" x ½" wall @ 1421' GL. GIH, drill. MW – 9, Vis. – 60, FL – 9. Surveys: none.

13 November 2010

Depth 3353' DF, 22" x ½" wall @ 1421' GL. Drill, TFNB, drill. MW – 8.9, Vis. – 57, FL – 9. Surveys: none.

14 November 2010

Depth 3385' DF, 22" x ½" wall @ 1421' GL. Drill & survey. MW – 8.9, Vis. – 58, FL – 9. Surveys: 5¼° @ 3317'.

15 November 2010

Depth 3449' DF, 22" x ½" wall @ 1421' GL. Drill. MW – 9, Vis. – 56, FL – 8. Surveys: 6° @ 3070'.

16 November 2010

Depth 3457' DF, 22" x ½" wall @ 1421' GL. Drill & survey, TFNB. MW – 9, Vis. – 57, FL – 8.

Surveys: 7° @ 3384'.

17 November 2010

Depth 3472' DF, 22" x ½" wall @ 1421' GL. GIH, drill. MW – 9.1, Vis. – 56, FL – 9.2. Surveys: none.

18 November 2010

Depth 3512' DF, 22" x ½" wall @ 1421' GL. Drill & survey, POOH. MW – 9, Vis. – 55, FL – 8. Surveys: 6¼° @ 3450'.

19 November 2010

Depth 3545' DF, 22" x ½" wall @ 1421' GL. TFNB, drill. MW – 9.1, Vis. – 48, FL – 9.2. Surveys: none.

20 November 2010

Depth 3617' DF, 22" x ½" wall @ 1421' GL. Drill & survey. MW – 8.9, Vis. – 56, FL – 9.5. Surveys: 6½° @ 3511'.

21 November 2010

Depth 3690' DF, 22" x ½" wall @ 1421' GL. Drill & survey. MW – 8.9, Vis. – 55, FL – 9.6. Surveys: 6½° @ 3571'.

22 November 2010

Depth 3710' DF, 22" x ½" wall @ 1421' GL. Drill, POOH. MW – 8.9, Vis. – 56, FL – 10.2. Surveys: 6¼° @ 3647'.

23 November 2010

Depth 3711' DF, 22" x ½" wall @ 1421' GL. GIH, C&C, wash to bottom, C&C, POOH. MW – 8.9, Vis. – 56, FL – 10.2. Surveys: none.

24 November 2010

Depth 3733' DF, 22" x ½" wall @ 1421' GL. POOH, PU BHA, GIH, circ & wash to bottom, drill. MW – 8.8, Vis. – 58, FL – 10.8. Surveys: none.

25 November 2010

Depth 3807' DF, 22" x ½" wall @ 1421' GL. Drill & survey, stuck pipe, work free, POOH 100', wash to bottom. MW – 8.8, Vis. – 58, FL – 10.8. Surveys: none.

26 November 2010

Depth 3829' DF, 22" x ½" wall @ 1421' GL. Wash to bottom, drill & survey, stuck pipe, work free, POOH. MW – 8.8, Vis. – 60, FL – 12.8. Surveys: 6° @ 3720'.

27 November 2010

Depth 3829' DF, 22" x ½" wall @ 1421' GL. GIH, mix & pump mud. MW – 9.8, Vis. – 65, FL – not measured. Surveys: none.

28 November 2010

Depth 3829' DF, 22" x ½" wall @ 1421' GL. Build mud weight, GIH, wash to 3698', pull up to 3644', C&C. MW – 9.5, Vis. – 64, FL – 12. Surveys: none.

29 November 2010

Depth 3829' DF, 22" x ½" wall @ 1421' GL. C&C, build mud weight, wash to 3814. MW – 10, Vis. – 75, FL – 12. Surveys: none.

30 November 2010

Depth 3829' DF, 22" x ½" walls @ 1421' GL. Wash to 3826', Bit stuck, unplugged, circulate and condition mud. MW 10.10, Vis. 67, FL – Not reported. Surveys: none

1 December 2010

Depth 3829' DF, 22" x ½" wall @ 1421' GL. C&C, wash down and up, C&C. MW – 10.2, Vis. – 67, FL – 10.2. Surveys: none.

2 December 2010

Depth 3829' DF, 22" x ½" wall @ 1421' GL. C&C, rebuild mud volume, C&C. MW – 9.5, Vis. – 68, FL – 9.2. Surveys: none.

3 December 2010

Depth 3829' DF, 22" x ½" wall @ 1421' GL. C&C, wash & ream, C&C. MW – 9.2, Vis. – 65, FL – 9. Surveys: none.

4 December 2010

Depth 3829' DF, 22" x ½" wall @ 1421' GL. C&C, POOH. MW – 9.4, Vis. – 63, FL – 7. Surveys: none.

5 December 2010

Depth 3829' DF, 22" x ½" wall @ 1421' GL. LD BHA, RU to run casing, run 13-3/8 casing with 1.9" parasite string. MW – 9.3, Vis. – 62, FL – 6.5. Surveys: none.

6 December 2010

Depth 3829' DF, 22" x ½" wall @ 1421' GL. Run 13-3/8 casing, tag at 3770', land at 3769', cement w/ Schlumberger, diagnose casing issue. MW -9.1, Vis. - 53, FL - 14. Surveys: none.

7 December 2010

Depth 3829' DF, 22" x ½" wall @ 1421' GL. Diagnose casing issue, wait on wireline truck, ran CCL/temp survey, leak in joint from 752 to 798, ran CCL/CBL, TOC @ 2710', wait on gage ring, ring cut too large, drift w/ 12.1" gage ring, casing open to cementing plug, wait on Boart camera truck. MW -9, Vis. - 54, FL - 10. Surveys: none.

8 December 2010

Depth 3829' DF, 13¾ @ 3769' DF. Wait on tools, cut off casing above slips, RU false rotary table, GIH w/ drill string to 900', evacuate hole, POOH, GIH w/ camera, fluid level at 650', POOH w/ camera, GIH w/ drill string to 1100', evacuate hole, POOH w/ drill string, GIH w/ camera, examine casing from 752' to 798', ok, POOH w/ camera, retool to investigate for deeper leak. MW -9, Vis. - 55, FL - 9.5. Surveys: none.

9 December 2010

Depth 3829' DF, 13¾ @ 3769' DF. Make up stands of 5½ DP, wait on spinner survey tools, run spinner survey, leak located at air injection sub at 2483', pump water down parasite string, set up casing alignment assy. MW -9, Vis. - 32, FL - 13.4. Surveys: none.

10 December 2010

Depth 3829' DF, 13¾ @ 3769' DF. Prep to run csg alignment assy, GIH w/ 12¼" OD csg alignment assy, space out over air sub interval, hook up to hang both DP and casing from block/top drive assy, pull csg slips, found csg parted, slack off until taking weight, set slips on csg, POOH w/ csg alignment assy, RU tremmie pipe, GIH down annulus w/ tremmie pipe to 2360'. MW -9, Vis. - 32, FL - 13.4. Surveys: none.

11 December 2010

Depth 3829' DF, 13¾ @ 3769' DF. GIH w/ tremmie pipe to 2770', RU cementer, mix & pump 270 cf of 15.6 ppg cement, pull tremmie pipe to 2250', WOC, tag cmt at 2365', mix & pump 388 cf of 15.6 ppg cmt, pull tremmie pipe to 1770', WOC, tag cmt at 2140', tremmie pipe plugged, pull up tremmie pipe and attempt to clear. MW -8.9, Vis. - 67, FL - 10.8. Surveys: none.

12 December 2010

Depth 3829' DF, 13¾ @ 3769' DF. POOH w/ tremmie pipe, found 40' plugged w/ cmt, GIH w/ tremmie pipe, tag at 2105', mix and pump 333 cf of 15.3 ppg cmt, POOH w/ tremmie pipe to 1500', WOC, GIH w/ tremmie pipe, tag cmt at 1870', mix & pump 322 cf of 15.3 ppg cmt, POOH w/ tremmie pipe to 1270', WOC, GIH to 1670'. MW -8.9, Vis. - 62, FL - 9.8. Surveys: none.

13 December 2010

Depth 3829' DF, 13¾ @ 3769' DF. Tag cmt at 1700' w/ tremmie pipe, cement w/ 333 cf of 15.6 ppg cmt, POOH w/ tremmie pipe to 1100', WOC, GIH w/ tremmie pipe to tag @ 1370', cement w/ 1071 cf of 15.6 ppg cmt, POOH w/ tremmie pipe, WOC, GIH w/ tremmie pipe, tag cmt @ 150', cement w/ 187 cf of 15.3 ppg cmt, cement to surface WOC. MW -9.1, Vis. - 66, FL - 10.7. Surveys: none.

14 December 2010

Depth 3829' DF, 13¾ @ 3769' DF. WOC, cut off 13¾ csg, break down csg alignment assy, PU 12¼ bit and scraper, GIH, work through air inj sub, POOH, LD scraper, GIH w/ bit. MW -9.2, Vis. - 41,

FL – 12.7. Surveys: none.

15 December 2010

Depth 3829' DF, 13 $\frac{3}{8}$ @ 3769' DF. GIH, tag @ 3707', C&C, POOH, PU Howco squeeze pkr, GIH w/ pkr, pkr set down at 830', POOH, left pkr in hole, check pkr performance, no seal, RU on parasite string. MW – 9, Vis. – 34, FL – 16.2. Surveys: none.

16 December 2010

Depth 3829' DF, 13 $\frac{3}{8}$ @ 3769' DF. Check csg leak, POOH w/ DP, fill csg, pump 5 bw dn parasite string, cement down parasite string, pump 150 sx of 15.8 ppg class "G" cement, flush w/ 2 bw, WOC, make up and rack back stands of drill pipe. MW – 8.9, Vis. – 49, FL – 11.6. Surveys: none.

17 December 2010

Depth 3829' DF, 13 $\frac{3}{8}$ @ 3769' DF. MU stands of DP, check parasite string, plugged w/ cmt, GIH, circ at 801', drill up pkr to 831', pkr released and went down hole, wash to 895', POOH, PU stands of dp, GIH w/ bit, tag plug @ 2465', drill pkr & cmt to 2582', wash to 2665', fill csg, hole standing full, pooh. MW – 8.8, Vis. – 42, FL – 11.6. Surveys: none.

18 December 2010

Depth 3829' DF, 13 $\frac{3}{8}$ @ 3769' DF. POOH, PU stands of dp, tag at 3702', circulate, drill to 3737', hole standing full, drill cmt to 3767', empty mud tank, build mud, C&C, drill to 3771, starting to lose fluid, POOH, static fluid level at 886', stand back stands of dp, GIH. MW – 8.8, Vis. – 50, FL – 11.6. Surveys: none.

19 December 2010

Depth 3829' DF, 13 $\frac{3}{8}$ @ 3769' DF. C&C, to 3777', bit plugging, POOH, bit plugged, clean out bit, fluid level at 1201', GIH, ream to 3779', bit plugged, POOH. MW – 8.8, Vis. – 47, FL – 11. Surveys: none.

20 December 2010

Depth 3829' DF, 13 $\frac{3}{8}$ @ 3769' DF. POOH, clean bit, MU BHA, GIH, ream to 3782', bit plugged, POOH. MW – 8.8, Vis. – 58, FL – 8.6. Surveys: none.

21 December 2010

Depth 3829' DF, 13 $\frac{3}{8}$ @ 3769' DF. Unplug shock sub, LD shock sub & IBS, GIH, ream to 3818', . MW – 8.8, Vis. – 47, FL – 8.8. Surveys: none.

22 December 2010

Depth 3886' DF, 13 $\frac{3}{8}$ @ 3769' DF. Ream to 3829', drill. MW – 8.7, Vis. – 77, FL – 9.2. Surveys: none.

23 December 2010

Depth 3981' DF, 13 $\frac{3}{8}$ @ 3769' DF. Drill & survey. MW – 8.7, Vis. – 64, FL – 8.6. Surveys: 6° @ 3840'.

24 December 2010

Depth 4065' DF, 13 $\frac{3}{8}$ @ 3769' DF. Drill & survey. MW – 8.9, Vis. – 60, FL – 8.8. Surveys: 6° @ 3940'.

25 December 2010

Depth 4119' DF, 13 $\frac{3}{8}$ @ 3769' DF. Drill & survey. MW -9, Vis. - 65, FL - 8.7. Surveys: 6° @ 4040'.

26 December 2010

Depth 4163' DF, 13 $\frac{3}{8}$ @ 3769' DF. Drill, C&C, POOH. MW -9, Vis. - 73, FL - 9.5. Surveys: none.

27 December 2010

Depth 4213' DF, 13 $\frac{3}{8}$ @ 3769' DF. PU new bit, inspect BHA, GIH, drill. MW -9, Vis. - 60, FL - 9. Surveys: none.

28 December 2010

Depth 4304' DF, 13 $\frac{3}{8}$ @ 3769' DF. Drill & survey. MW -9, Vis. - 58, FL - 10. Surveys: 6° @ 4200'.

29 December 2010

Depth 4328' DF, 13 $\frac{3}{8}$ @ 3769' DF. Drill, C&C, POOH, PU new bit, GIH. MW -8.9, Vis. - 55, FL - 9.5. Surveys: none.

30 December 2010

Depth 4398' DF, 13 $\frac{3}{8}$ @ 3769' DF. GIH, drill & survey. MW -9, Vis. - 56, FL - 9.5. Surveys: 6° @ 4330'.

31 December 2010

Depth 4495' DF, 13 $\frac{3}{8}$ @ 3769' DF. Drill. MW -9, Vis. - 53, FL - 9.5. Surveys: none.

1 January 2011

Depth 4560' DF, 13 $\frac{3}{8}$ @ 3769' DF. Drill & survey. MW -9, Vis. - 56, FL - 9.5. Surveys: 5.5° @ 4431'.

2 January 2011

Depth 4617' DF, 13 $\frac{3}{8}$ @ 3769' DF. Drill & survey. MW -9, Vis. - 54, FL - 9. Surveys: 6° @ 4532'.

3 January 2011

Depth 4627' DF, 13 $\frac{3}{8}$ @ 3769' DF. Drill, POOH, PU new bit, GIH. MW -9, Vis. - 60, FL - 9.5. Surveys: none

4 January 2011

Depth 4707' DF, 13 $\frac{3}{8}$ @ 3769' DF. Drill & survey. MW -9, Vis. - 60, FL - 9.5. Surveys: 6° @ 4615'.

5 January 2011

Depth 4785' DF, 13 $\frac{3}{8}$ @ 3769' DF. Drill & survey. MW -9, Vis. - 56, FL - 9.4. Surveys: 5.5° @ 4700'.

6 January 2011

Depth 4861' DF, 13 $\frac{3}{8}$ @ 3769' DF. Drill & circulate. MW -9, Vis. - 57, FL - 8.8. Surveys: none.

7 January 2011

Depth 4926' DF, 13 $\frac{3}{8}$ @ 3769' DF. Drill & survey. MW -8.9, Vis. - 59, FL - 8.6. Surveys: 5.5° @ 4800'.

8 January 2011

Depth 5015' DF, 13¾ @ 3769' DF. Drill & survey. MW – 9.1, Vis. – 56, FL – 9. Surveys: 5.75° @ 4906'.

9 January 2011

Depth 5093' DF, 13¾ @ 3769' DF. Drill & survey, TFNB. MW – 9.2, Vis. – 55, FL – 8.8. Surveys: 6° @ 5040'.

10 January 2011

Depth 5118' DF, 13¾ @ 3769' DF. TFNB, drill. MW – 9.3, Vis. – 40, FL – 8.8. Surveys: none

11 January 2011

Depth 5192' DF, 13¾ @ 3769' DF. Drill. MW – 9.2, Vis. – 53, FL – 8.4. Surveys: none.

12 January 2011

Depth 5207' DF, 13¾ @ 3769' DF. Drill, TFNB. MW – 9.5, Vis. – 56, FL – 8. Surveys: none.

13 January 2011

Depth 5245' DF, 13¾ @ 3769' DF. TFNB, drill & survey. MW – 9.1, Vis. – 55, FL – 9. Surveys: 5° @ 5154'.

14 January 2011

Depth 5320' DF, 13¾ @ 3769' DF. Drill & survey. MW – 9.2, Vis. – 52, FL – 9.4. Surveys: 5.5° @ 5260'.

15 January 2011

Depth 5420' DF, 13¾ @ 3769' DF. Drill. MW – 9.3, Vis. – 58, FL – 9.4. Surveys: none.

16 January 2011

Depth 5517' DF, 13¾ @ 3769' DF. Drill & survey. MW – 9.3, Vis. – 61, FL – 8.4. Surveys: 6° @ 5367'.

17 January 2011

Depth 5550' DF, 13¾ @ 3769' DF. Drill, POOH for leaks in air string. MW – 9.3, Vis. – 70, FL – 9.2. Surveys: none

18 January 2011

Depth 5550' DF, 13¾ @ 3769' DF. POOH looking for leaks in air string, replace bit, roller reamer & blade reamer, GIH. MW – 8.9, Vis. – not reported, FL – 11.9. Surveys: none.

19 January 2011

Depth 5618' DF, 13¾ @ 3769' DF. GIH, circ. to bottom, drill, survey. MW – 8.9, Vis. – 52, FL – 10.8. Surveys: none.

20 January 2011

Depth 5690' DF, 13¾ @ 3769' DF. Survey, drill, C&C, drill. MW – 8.9, Vis. – 52, FL – 10.8. Surveys: 6° @ 5560'.

21 January 2011

Depth 5761' DF, 13¾ @ 3769' DF. C&C, drill C&C, drill. MW – 9, Vis. – 50, FL – 11.2. Surveys: none.

22 January 2011

Depth 5846' DF, 13 $\frac{3}{8}$ @ 3769' DF. Drill, survey, POOH. MW – 9, Vis. – 52, FL – 9.6. Surveys: 6° @ 5720'.

23 January 2011

Depth 5846' DF, 13 $\frac{3}{8}$ @ 3769' DF. POOH, install new bit, GIH. MW – 9, Vis. – 52, FL – 9.6. Surveys: none.

24 January 2011

Depth 5883' DF, 13 $\frac{3}{8}$ @ 3769' DF. GIH, C&C, drill. MW – 9, Vis. – 56, FL – 12.5. Surveys: none.

25 January 2011

Depth 5938' DF, 13 $\frac{3}{8}$ @ 3769' DF. Drill, rig repair, drill, POOH. MW – 9, Vis. – 56, FL – 11.6. Surveys: none.

26 January 2011

Depth 5976' DF, 13 $\frac{3}{8}$ @ 3769' DF. GIH, C&C, POOH, C&C, GIH, drill & survey. MW – 9, Vis. – 63, FL – 10.5. Surveys: none.

27 January 2011

Depth 6000' DF, 13 $\frac{3}{8}$ @ 3769' DF. Survey, drill. MW – 9, Vis. – 62, FL – 10.5. Surveys: 6° @ 5915'.

28 January 2011

Depth 6051' DF, 13 $\frac{3}{8}$ @ 3769' DF. Drill, POOH. MW – 9, Vis. – 61, FL – 10.5. Surveys: none.

29 January 2011

Depth 6066' DF, 13 $\frac{3}{8}$ @ 3769' DF. Trip for leaks in air string, drill, trip for leaks in air string. MW – 9, Vis. – 61, FL – 10.5. Surveys: none.

30 January 2011

Depth 6066' DF, 13 $\frac{3}{8}$ @ 3769' DF. POOH, NU Hydril & rotating hd, GIH. MW – 9, Vis. – 61, FL – 10.5. Surveys: none.

31 January 2011

Depth 6098' DF, 13 $\frac{3}{8}$ @ 3769' DF. GIH, drill. MW – 9.1, Vis. – 63, FL – 10.5. Surveys: none.

1 February 2011

Depth 6174' DF, 13 $\frac{3}{8}$ @ 3769' DF. Drill. MW – 9.1, Vis. – 54, FL – 10.4. Surveys: none.

2 February 2011

Depth 6228' DF, 13 $\frac{3}{8}$ @ 3769' DF. Drill & survey. MW – 9.1, Vis. – 57, FL – 10.2. Surveys: 6° @ 6150'.

3 February 2011

Depth 6271' DF, 13 $\frac{3}{8}$ @ 3769' DF. Drill. MW – 9.1, Vis. – 52, FL – 10.2. Surveys: none.

4 February 2011

Depth 6338' DF, 13 $\frac{3}{8}$ @ 3769' DF. Drill. MW – 9.1, Vis. – 56, FL – 10.5. Surveys: none.

5 February 2011

Depth 6395' DF, 13 $\frac{3}{8}$ @ 3769' DF. Drill, POOH. MW – 9.2, Vis. – 55, FL – 10.5. Surveys: none.

6 February 2011

Depth 6395' DF, 13 $\frac{3}{8}$ @ 3769' DF. POOH, slip drilling line, change bit & roller reamers, GIH. MW – 9, Vis. – 61, FL – 10.5. Surveys: none.

7 February 2011

Depth 6442' DF, 13 $\frac{3}{8}$ @ 3769' DF. GIH, drill. MW – 9.2, Vis. – 55, FL – 10.5. Surveys: none.

8 February 2011

Depth 6491' DF, 13 $\frac{3}{8}$ @ 3769' DF. Drill. MW – 9.3, Vis. – 56, FL – 8.4. Surveys: none.

9 February 2011

Depth 6502' DF, 13 $\frac{3}{8}$ @ 3769' DF. Drill, C&C, run survey, tool stuck, pull survey line off survey tool, POOH w/ bit, survey tool left in hole, change bit, GIH. MW – 9.2, Vis. – 54, FL – 8.6. Surveys: none.

10 February 2011

Depth 6502' DF, 13 $\frac{3}{8}$ @ 3769' DF. Inspect DC's looking for Totco tool, GIH, with bit depth at 2395' dropped block to floor, wait on orders. MW – 9.2, Vis. – 57, FL – 8.5. Surveys: none.

11-16 February 2011

Depth 6502' DF, 13 $\frac{3}{8}$ @ 3769' DF. Investigate problems that resulted in dropped block. MW – 9.2, Vis. – 57, FL – 8.5. Surveys: none.

17-22 February 2011

Depth 6502' DF, 13 $\frac{3}{8}$ @ 3769' DF. Investigate problems that resulted in dropped block. MW – 9.2, Vis. – 57, FL – 8.5. Surveys: none.

23 February – 1 March 2011

Depth 6502' DF, 13 $\frac{3}{8}$ @ 3769' DF. Investigate problems that resulted in dropped block, rig repair. MW – 9.2, Vis. – 57, FL – 8.5. Surveys: none.

2 March 2011

Depth 6502' DF, 13 $\frac{3}{8}$ @ 3769' DF. Rig repair, GIH w/ overshot in attempt to catch survey tool, wash to bottom, POOH. MW – 9.2, Vis. – 44, FL – 17. Surveys: none.

3 March 2011

Depth 6502' DF, 13 $\frac{3}{8}$ @ 3769' DF. POOH, LD DP & DC's. MW – 9.2, Vis. – 44, FL – 17. Surveys: none.

4 March 2011

Depth 6502' DF, 13 $\frac{3}{8}$ @ 3769' DF. LDDP, RDRT. MW – 9.2, Vis. – 44, FL – 17. Surveys: none.

5 March – 9 March 2011

Depth 6502' DF, 13 $\frac{3}{8}$ @ 3769' DF. RDRT. MW – 9.2, Vis. – 44, FL – 17. Surveys: none.

10 March – 14 March 2011

Depth 6502' DF, 13 $\frac{3}{8}$ @ 3769' DF. RDMORT, clean up location and prep for MIRU Patterson rig. MW – 9.2, Vis. – 44, FL – 17. Surveys: none.

15 March – 21 March 2011

Depth 6502' DF, 13 $\frac{3}{8}$ @ 3769' DF. MIRU Patterson rig 304. MW –9.2, Vis. – 44, FL – 17.

Surveys: none.

22 – 24 March 2011

Depth 6502' DF, 13 $\frac{3}{8}$ @ 3769' DF. MIRU Patterson rig 304. MW –9.2, Vis. – 44, FL – 17.

Surveys: none.

25 March 2011

Depth 6502' DF, 13 $\frac{3}{8}$ @ 3769' DF. Build stands of drill pipe, PU bit and junk basket. MW –9.2, Vis. – 44, FL – 17. Surveys: none.

26 March 2011

Depth 6502' DF, 13 $\frac{3}{8}$ @ 3769' DF. GIH to 2977', break circulation, GIH, spot 150 bbl LCM pill at csg shoe, GIH to 6470', rig repair. MW –8.6, Vis. – 48, FL – 8.7. Surveys: none.

27 March 2011

Depth 6502' DF, 13 $\frac{3}{8}$ @ 3769' DF. Rig repair, POOH to csg shoe, rig repair. MW –8.6, Vis. – 49, FL – 8.1. Surveys: none.

28 March 2011

Depth 6505' DF, 13 $\frac{3}{8}$ @ 3769' DF. Rig repair, GIH to 6494', break circulation, drill on junk 6494' to 6505'. MW –8.6, Vis. – 51, FL – 8.8. Surveys: none.

29 March 2011

Depth 6516' DF, 13 $\frac{3}{8}$ @ 3769' DF. Drill on junk, POOH, PU new BHA, GIH, survey. MW – 8.6, Vis. – 51, FL – 9.8. Surveys: 5.01° @ 6481'.

30 March 2011

Depth 6605' DF, 13 $\frac{3}{8}$ @ 3769' DF. Work on lost circulation, drill, POOH to casing shoe, build mud volume, GIH, MWD not responding, spot LCM pill. MW –8.6, Vis. – 49, FL – 8.1. Surveys: none.

31 March 2011

Depth 6605' DF, 13 $\frac{3}{8}$ @ 3769' DF. Wait on LCM pill to soak, pump LCM pill, wait on pill to soak, pump LCM pill, wait on pill to soak, POOH, change MWD, GIH w/ new bit. MW – 8.6, Vis. – 49, FL – 8.1. Surveys: none.

1 April 2011

Depth 6615' DF, 13. @ 3769' DF. Build mud volume, weight up to 8.8 ppg, add 15 ppb LCM, GIH, wash and ream to bottom, drill, pump service. MW –8.8, Vis. – 55, FL – 7. Surveys: none.

2 April 2011

Depth 6731' DF, 13. @ 3769' DF. Pump service, drill & survey. MW – 8.9, Vis. – 55, FL – 9.8. Surveys: 5.01° @ 6640'.

3 April 2011

Depth 6858' DF, 13. @ 3769' DF. Drill & survey. MW – 8.8, Vis. – 54, FL – 14. Surveys: 4.92° @ 6738'.

4 April 2011

Depth 6953' DF, 13. @ 3769' DF. Drill & survey, C&C, POOH. MW – 8.8, Vis. – 44, FL – 13. Surveys: 4.9° @ 6830'.

5 April 2011

Depth 6995' DF, 13. @ 3769' DF. POOH, change bit and stabilizers, GIH, ream to btm, drill to 6995. MW – 8.8, Vis. – 41, FL – 12.6. Surveys: 5.1° @ 6915' & 5.19° @ 6924'.

6 April 2011

Depth 7080' DF, 13. @ 3769' DF. Drill & survey. MW – 8.9, Vis. – 48, FL – 9.2. Surveys: 5.01° @ 7016'.

7 April 2011

Depth 7197' DF, 13. @ 3769' DF. Drill & survey. MW – 8.95, Vis. – 48, FL – 9. Surveys: 4.92° @ 7117'.

8 April 2011

Depth 7258' DF, 13. @ 3769' DF. Drill & survey, TFNB. MW – 8.8, Vis. – 51, FL – 6. Surveys: 4.92° @ 7246'.

9 April 2011

Depth 7323' DF, 13. @ 3769' DF. GIH, ream to bottom, drill. MW – 8.8, Vis. – 50, FL – 7.8. Surveys: none.

10 April 2011

Depth 7412' DF, 13. @ 3769' DF. Drill & survey. MW – 8.8, Vis. – 63, FL – 7.6. Surveys: 5.1° @ 7313'.

11 April 2011

Depth 7531' DF, 13. @ 3769' DF. Drill & survey. MW – 8.8, Vis. – 75, FL – 7.4. Surveys: 5.32° @ 7408'.

12 April 2011

Depth 7596' DF, 13. @ 3769' DF. Drill & survey, POOH. MW – 8.8, Vis. – 67, FL – 7.2. Surveys: 5.8° @ 7568'.

13 April 2011

Depth 7596' DF, 13. @ 3769' DF. PU bit, IBS & reamer, GIH, ream to bottom. MW – 8.7, Vis. – 56, FL – 7.5. Surveys: none.

14 April 2011

Depth 7665' DF, 13. @ 3769' DF. Ream to bottom, drill & survey. MW – 8.9, Vis. – 53, FL – 7. Surveys: 5.8° @ 7596'.

15 April 2011

Depth 7766' DF, 13. @ 3769' DF. Drill & survey. MW – 8.8, Vis. – 67, FL – 6. Surveys: 5.8° @ 7691'.

16 April 2011

Depth 7794' DF, 13. @ 3769' DF. Drill & survey, POOH, PU new bit, pump service. MW – 8.8, Vis. – 58, FL – 6.8. Surveys: 5.8° @ 7741'.

17 April 2011

Depth 7825' DF, 13. @ 3769' DF. Pump service, GIH, drill & survey. MW – 8.8, Vis. – 60, FL – 7. Surveys: 5.89° @ 7786'.

18 April 2011

Depth 7844' DF, 13. @ 3769' DF. Drill & survey, TFNB, drill. MW – 8.8, Vis. – 52, FL – 6.5. Surveys: 5.89° @ 7775'.

19 April 2011

Depth 8011' DF, 13. @ 3769' DF. Drill & survey. MW – 8.8, Vis. – 52, FL – 6.8. Surveys: 6° @ 7880'.

20 April 2011

Depth 8174' DF, 13. @ 3769' DF. Drill & survey. MW – 8.9, Vis. – 60, FL – 6.5. Surveys: 6.4° @ 8071'.

21 April 2011

Depth 8331' DF, 13. @ 3769' DF. Drill & survey. MW – 8.8, Vis. – 64, FL – 7. Surveys: 7.1° @ 8165' & 7.9° @ 8260'.

22 April 2011

Depth 8424' DF, 13. @ 3769' DF. Drill & survey, C&C, POOH. MW – 8.8, Vis. – 50, FL – 6. Surveys: 8.8° @ 8351'.

23 April 2011

Depth 8438' DF, 13. @ 3769' DF. POOH, change BHA, GIH, drill. MW – 8.8, Vis. – 62, FL – 6.4. Surveys: none.

24 April 2011

Depth 8439' DF, 13. @ 3769' DF. Drill, C&C, POOH, change BHA, GIH, W&R to bottom. MW – 8.8, Vis. – 50, FL – 7. Surveys: none.

25 April 2011

Depth 8542' DF, 13. @ 3769' DF. Drill & survey. MW – 8.8, Vis. – 58, FL – 6.8. Surveys: 9° @ 8396' & 9° @ 8481'.

26 April 2011

Depth 8619' DF, 13. @ 3769' DF. Drill & survey. MW – 8.8, Vis. – 55, FL – 7. Surveys: 9.4° @ 8541'.

27 April 2011

Depth 8619' DF, 13. @ 3769' DF. Drill & survey, TFNB, GIH. MW – 8.8, Vis. – 52, FL – 7.1. Surveys: 9.4° @ 8541'.

28 April 2011

Depth 8772' DF, 13. @ 3769' DF. Drill & survey. MW – 8.8, Vis. – 60, FL – 6.7. Surveys: 9.49° @ 8641' & 9.71° @ 8721'.

29 April 2011

Depth 8863' DF, 13. @ 3769' DF. Drill & survey. MW – 8.8, Vis. – 57, FL – 7. Surveys: 9.89° @ 8812'.

30 April 2011

Depth 8966' DF, 13. @ 3769' DF. Drill & survey. MW – 8.8, Vis. – 54, FL – 7.9. Surveys: 10.11° @ 8907'.

1 May 2011

Depth 9056' DF, 13. @ 3769' DF. Drill & survey. MW – 8.8, Vis. – 43, FL – 7.8. Surveys: 10.5° @ 9002'.

2 May 2011

Depth 9143' DF, 13. @ 3769' DF. Drill & survey, TFNB. MW – 8.8, Vis. – 61, FL – 8.9. Surveys: 10.9° @ 9096'.

3 May 2011

Depth 9192' DF, 13. @ 3769' DF. TFNB, ream to bottom, drill. MW – 8.8, Vis. – 45, FL – 9.1. Surveys: none.

4 May 2011

Depth 9287' DF, 13. @ 3769' DF. Drill & survey. MW – 8.8, Vis. – 51, FL – 7.5. Surveys: 10.7° @ 9205'.

5 May 2011

Depth 9351' DF, 13. @ 3769' DF. Drill & survey. MW – 8.9, Vis. – 49, FL – 5.1. Surveys: 10.9° @ 9286'.

6 May 2011

Depth 9398' DF, 13. @ 3769' DF. Drill to 9366', 15 stand short trip, drill. MW – 8.8, Vis. – 51, FL – 8. Surveys: none.

7 May 2011

Depth 9480' DF, 13. @ 3769' DF. Drill & survey. MW – 8.8, Vis. – 54, FL – 7.5. Surveys: 10.8° @ 9378'.

8 May 2011

Depth 9482' DF, 13. @ 3769' DF. Drill, POOH for logs & casing. MW – 8.8, Vis. – 52, FL – 7.5. Surveys: none.

9 May 2011

Depth 9482' DF, 13. @ 3769' DF. Left cones in hole, magnet run, log w/ Halliburton, GIH w/ concave mill and junk baskets. MW – 8.75, Vis. – 58, FL – 6.6. Surveys: none.

10 May 2011

Depth 9482' DF, 13. @ 3769' DF. Ream tight spots, mill on junk, POOH, work tight spots, POOH, rig repair. MW – 8.8, Vis. – 47, FL – 7.5. Surveys: none.

11 May 2011

Depth 9483' DF, 13. @ 3769' DF. GIH for C&C, C&C, POOH, LD jars & x-o's, RU casers, run 9-5/8" casing. MW – 8.8, Vis. – 64, FL – 7.5. Surveys: none.

12 May 2011

Depth 9483' DF, 13. @ 3769' DF. Damaged shoe jt during make up, wait on replacement cementing shoe, run 9-5/8 casing. MW – 8.8, Vis. – 47, FL – 8. Surveys: none.

13 May 2011

Depth 9483' DF, 9. @ 9470' DF. Run 9. casing to 9469.52' DF, C&C, cement w/ Schlumberger. MW – 8.75, Vis. – 43, FL – 7.5. Surveys: none.

14 May 2011

Depth 9483' DF, 9. @ 9470' DF. WOC, cut off pipe, weld on bradenhead, NU BOP's. MW – 8.75, Vis. – 44, FL – 8. Surveys: none.

15 May 2011

Depth 9494' DF, 9. @ 9470' DF. Test BOP's, lay out & strap BHA, GIH to 3489', drill stage collar, GIH, drill cmt collar, shoe jts and shoe, drill to 9494' DF. MW – 8.7, Vis. – 44, FL – 8. Surveys: none.

16 May 2011

Depth 9494' DF, 9. @ 9470' DF. C&C, conduct leak-off test to 14.2 ppg EMW, pump pill, POOH, RU Baker truck, run Gyrodata gyro survey 4200' to 2000', RU Baker seismic, run VSP log. MW – 8.8, Vis. – 52, FL – 7.5. Surveys: none.

17 May 2011

Depth 9494' DF, 9. @ 9470' DF. Run VSP open hole log, RU Zeco solids control equip, RU Katch Kan equip, PU BHA, move OBM to active system, GIH. MW – 11.6, Vis. – 78, FL – 9.8. Surveys: none.

18 May 2011

Depth 9494' DF, 9. @ 9470' DF. Displace WBM w/ OBM, run leak-off test to 13 ppg, lost returns, lost 120 bbl OBM, POOH, stand back directional tools, GIH w/ packer, set at 3657', test annulus to 750 psi/30 min, OK, test drill pipe, losing mud, GIH w/ pkr. MW – 11.2, Vis. – 46, FL – 8.2. Surveys: none.

19 May 2011

Depth 9494' DF, 9. @ 9470' DF. Set pkr at 9362' DF, test csg to 700 psi/30min, OK, C&C, reduce MW from 11.6 to 10.6 ppg, POOH, LD pkr, GIH w/ directional tools. MW – 10, Vis. – 49, FL – 6.4. Surveys: none.

20 May 2011

Depth 9498' DF, 9. @ 9470' DF. Test MWD, GIH, drill, losing 10 bbl mud/hr, lower MW to 10.2 ppg, work on mud losses, POOH, LD BHA, PU tooth bit & junk basket. MW – 10, Vis. – 36, FL – 6.8. Surveys: none.

21 May 2011

Depth 9498' DF, 9. @ 9470' DF. GIH, build LCM pill, spot on bottom, monitor well, C&C, . MW – 9.2, Vis. – 48, FL – nil. Surveys: none.

22 May 2011

Depth 9505' DF, 9. @ 9470' DF. C&C, drill, spot pill, POOH, PU directional BHA, GIH. MW – 9, Vis. – 47, FL – nil. Surveys: none.

23 May 2011

Depth 9576' MD, 9½ @ 9470' DF. Drill & survey. MW – 9, Vis. – 46, FL – nil. Surveys: 11.1° @ 9487'.

24 May 2011

Depth 9650' MD, 9½ @ 9470' DF. Drill & survey. MW – 9, Vis. – 47, FL – nil. Surveys: 11.3° @ 9520' & 11.1° @ 9574'.

25 May 2011

Depth 9654' MD, 9½ @ 9470' DF. Drill, mud losses unsustainable, POOH, RU Schlumberger loggers, run cement imaging log over length of 9-5/8 casing. MW – 9, Vis. – 51, FL – nil. Surveys: none.

26 May 2011

Depth 9654' MD, 9½ @ 9470' DF. GIH w/ Halliburton pkr, set pkr at 3422', test back side to 700 psi/30 min, held ok, losing mud below pkr, move pkr to 5029', test annulus to 700 psi/30 min, held ok, losing mud below pkr, POOH w/ pkr, GIH open ended. MW – 9.1, Vis. – 52, FL – nil. Surveys: none.

27 May 2011

Depth 9654' MD, 9 $\frac{5}{8}$ " @ 9470' DF. GIH open ended to 9632', spot cement pill, pump 15 bbl spacer, 35.3 bbl cement, 5.7 bbl spacer, displace w/ 126 bbl OBM, POOH 30 stands, fill hole w/ OBM, shut in well and pressure up to 350 psi, pressure bled off to 324 psi, WOC. MW – 9, Vis. – 51, FL – nil. Surveys: none

28 May 2011

Depth 9654' MD, 9 $\frac{5}{8}$ " @ 9470' DF. Hold pressure, pressure dropped to 312 psi, bleed off pressure, POOH, GIH w/ mill tooth bit slick, W&R, circulate at 420 gpm, losing mud at 33 bph, C&C @ 210 gpm, losing mud at 0 bph, spot 60 bbl Strata Vanguard LCM pill, wait on LCM pill to soak, GIH to 9600'. MW – 9.1, Vis. – 48, FL – nil. Surveys: none.

29 May 2011

Depth 9660' DF, 9 $\frac{5}{8}$ " @ 9470' DF. Drill, still losing mud, reduce MW to 8.5 ppg, drill, POOH, PU directional tools, GIH. MW – 8.5, Vis. – 46, FL – nil. Surveys: none.

30 May 2011

Depth 9771' DF, 9 $\frac{5}{8}$ " @ 9470' DF. GIH, W&R, drill & survey. MW – 8.5, Vis. – 46, FL – nil. Surveys: 11.1° @ 9603', 10.9° @ 9634', 11.3° @ 9666' & 11.1° @ 9698'.

31 May 2011

Depth 9901' MD, 9 $\frac{5}{8}$ " @ 9470' DF. Drill & survey. MW – 8.5, Vis. – 44, FL – nil. Surveys: 11.2° @ 9730', 11.3° @ 9762', 11.2° @ 9793' & 11.2° @ 9825'.

1 June 2011

Depth 10,039' MD, 9" @ 9470' DF. Drill & survey. MW – 8.5, Vis. – 44, FL – nil. Surveys: 11.4° @ 9857', 12.4° @ 9888', 13.3° @ 9920' & 14.5° @ 9951'.

2 June 2011

Depth 10,151' MD, 9" @ 9470' DF. Drill & survey. MW – 8.5, Vis. – 47, FL – nil. Surveys: 15.4° @ 9983', 16.1° @ 10015', 16.6° @ 10047' & 17.8° @ 10079'.

3 June 2011

Depth 10,229' MD, 9" @ 9470' DF. Drill & survey, C&C, POOH. MW – 8.5, Vis. – 53, FL – nil. Surveys: 18.5° @ 10111' & 19.4° @ 10142'.

4 June 2011

Depth 10,285' MD, 9" @ 9470' DF. PU new bit & BHA, GIH, drill & survey. MW – 8.5, Vis. – 61, FL – nil. Surveys: 20.9° @ 10172' & 21.3° @ 10203'.

5 June 2011

Depth 10,481' MD, 9" @ 9470' DF. Drill & survey. MW – 8.5, Vis. – 53, FL – nil. Surveys: 23.6° @ 10235', 25.4° @ 10266', 26.8° @ 10298', 27.7° @ 10329', 29.3° @ 10361' & 29.9° @ 10392'.

6 June 2011

Depth 10,542' DF, 9" @ 9470' DF. Drill & survey, mud losses, pull into csg shoe, build mud volume, GIH, fill hole, drill, mud losses, pull into csg shoe. MW – 8.3, Vis. – 45, FL – nil. Surveys: 31.6° @ 10424'.

7 June 2011

Depth 10,588' MD, 9. @ 9470' DF. Wait on LCM soak, GIH, mix LCM pill, GIH, drilling. MW – 8.3, Vis. – 45, FL – nil. Surveys: none.

8 June 2011

Depth 10,685' MD, 9. @ 9470' DF. Drill & survey, POOH. MW – 8.5, Vis. – 47, FL – nil. Surveys: 35.3° @ 10520'.

9 June 2011

Depth 10,715' MD, 9. @ 9470' DF. POOH, change BHA, GIH, drill & survey. MW – 8.6, Vis. – 53, FL – nil. Surveys: 39.6° @ 10627' & 40.2° @ 10646'.

10 June 2011

Depth 10,855' MD, 9. @ 9470' DF. Drill & survey. MW – 8.4, Vis. – 49, FL – nil. Surveys: 41.3° @ 10678', 41° @ 10741' & 40.5° @ 10772'.

11 June 2011

Depth 10,967' MD, 9. @ 9470' DF. Drill & survey, short trip, drill & survey. MW – 8.3, Vis. – 49, FL – nil. Surveys: 38.6° @ 10867' & 38.5° @ 10899'.

12 June 2011

Depth 10,972' MD, 9. @ 9470' DF. Drill, POOH, PU new bit, test BOP's, GIH. MW – 8.3, Vis. – 55, FL – nil. Surveys: none.

13 June 2011

Depth 11,085' MD, 9. @ 9470' DF. GIH, drill & survey. MW – 8.3, Vis. – 53, FL – nil. Surveys: 38.8° @ 10930', 38.7° @ 10962' & 38.8° @ 10994'.

14 June 2011

Depth 11,173' MD, 9. @ 9470' DF. Drill & survey, short trip, drill, spot LCM pill, drill & survey. MW – 8.2, Vis. – 47, FL – nil. Surveys: 38.8° @ 11025' & 39.4° @ 11089'.

15 June 2011

Depth 11,204' MD, 9. @ 9470' DF. Spot LCM pill, drill, C&C, POOH for logs. MW – 8.3, Vis. – 46, FL – nil. Surveys: none.

16 June 2011

Depth 11,204' MD, 9. @ 9470' DF. POOH, LD BHA, run open hole logs, GIH w/ bit to 2000', WOO. MW – 8.3, Vis. – 47, FL – nil. Surveys: none.

17 June 2011

Depth 11,204' MD, 9. @ 9470' DF. WOO, POOH, LDDP, clean mud tanks, PU Halliburton retainer, GIH. MW – 8.3, Vis. – 43, FL – nil. Surveys: none.

18 June 2011

Depth 11,204' MD, 9. @ 9470' DF. GIH, set retainer @ 9385' MD, displace OBM out of hole w/ 9 ppg fresh water mud, pump plug #1 under retainer, pumped 17 bbl of cement. MW – 9, Vis. – 43, FL – not reported. Surveys: none.

19 June 2011

Depth 11,204' MD, 9. @ 9470' DF. POOH, LD Howco tools, GIH, pressure test csg to 750 psi, ok, set plug 2 @ 6500' 10 bbl cement, set plug 3 @ 3845' 10 bbl cement, set plug 4 @ 1485' 8 bbl cement, LDDP to 765'. MW – 9, Vis. – 43, FL – not reported. Surveys: none.

20 June 2011

Depth 11,204' MD, 9. @ 9470' DF. Pump surface plug cement, clean up, rig down rig equipment, rig released 18:00 hrs 19 June 2011, final report. MW – not reported, Vis. – not reported, FL – not reported. Surveys: none.

21 – 23 June 2011

Depth 11,204' MD, 9. @ 9470' DF. Rig down, move out rotary tools. MW – not reported, Vis. – not reported, FL – not reported. Surveys: none.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

FORM APPROVED
OMB No. 1004-0137
Expires: March 31, 2007

5. Lease Serial No.
UTU-852536

6. If Indian, Allottee or Tribe Name
N/A

7. If Unit or CA/Agreement, Name and/or No.
N/A

8. Well Name and No.
Rough Canyon Federal 30-1

9. API Well No.
43039500030000

10. Field and Pool, or Exploratory Area
Exploratory

11. County or Parish, State
Sanpete, Utah

SUBMIT IN TRIPLICATE- Other instructions on reverse side.

1. Type of Well
☐ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator **Wolverine Operating Company of Utah, LLC**

3a. Address
55 Campau NW, Grand Rapids, MI 49503

3b. Phone No. (include area code)
616-458-1150

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
**SHL: 288' FNL, 452' FWL, Sec 32, T17S, R1E, NWNW
BHL: 149' FNL, 390' FEL, Sec 31, T17S, R1E, NENE**

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other Drilling highlights
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Please see attached document detailing the main highlights experienced from the actual drilling of the Rough Canyon Federal 30-1 from spud to abandonment, as requested by Marvin Hendricks, BLM.

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NOV 29 2011

DIV. OF OIL, GAS & MINING

14. I hereby certify that the foregoing is true and correct
Name (Printed/Typed)

Edward A. Higuera

Title **Manager - Development**

Signature

Date

11/18/2011

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Title

Date

Office

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

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Operator: Wolverine Operating Company of Utah, LLC
Well: Rough Canyon Federal 30-1
Surface Location: Section 32, T17S, R1E
API Number: 43039500030000
Lease: UTU-82536
County/State: Sanpete, UT
Re: Summary of Drilling Operations

The purpose of this document is to satisfy a request by the BLM to summarize the main highlights experienced at this well as compared to the permitted APD and subsequent sundries.

The Rough Canyon Federal 30-1 was originally permitted to test the Navajo, with a projected total depth of 12,800' MD. Several changes to the original APD were needed to accomplish the drilling of this well, such as changes to the casing program and the drilling fluid systems, which will be discussed below.

The biggest geological factor that impacted drilling was the much thicker North Horn and Indianola conglomerates. Table 1 is a comparison of the anticipated formation tops and the actual tops encountered in the well.

Table 1 – Comparison of Geologic Prog and Actual formation Tops

Age	Formation	Prog, TVD/MD	Actual , TVD/MD
Tertiary	Colton	Surface	surface
Tertiary	Flagstaff	56'	56'
Tertiary	North Horn	156'	290'
Cretaceous	Indianola	356'	3195/3200'
Cretaceous	Cedar Mountain		6963/6981'
Jurassic	Twist Gulch	2800/2800'	<i>Not identified*</i>
Triassic	Triassic (unidentified)*		7934/7959'
	Thrust		9741/9790'
Jurassic	Arapien	3863/3940'	9741/9790'
Jurassic	Twin Creek	9765/10100'	10373/10470'
Jurassic	Navajo	10079/10420'	10687/10873'
	TD	12400/12800'	

*The interval below the Cedar Mountain has not been confirmed as Twist Gulch. Sample descriptions suggest it could be Twist Gulch, but palynological data indicates it is Triassic age, meaning a thrust was cut.

The conglomerates are slow drilling, cannot support a full liquid column, and are sensitive to changes in hydrostatic pressure, yielding larger volumes of water when underbalanced and incurring large mud losses when slightly overbalanced. LCM appeared to have limited impact on controlling losses. Successful drilling was found within a very narrow operating range. This was initially addressed with Boart's reverse circulation method, and then with an aerated fresh water mud, once Patterson rig #304 was mobilized to the site. The thicker conglomerates resulted in the Boart rig being on location much longer than anticipated.

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Originally Boart Rig LK-12 was programmed to drill the 36" hole and set 32" conductor at 50' GL and then drill and set the 20" conductor to 1200' which was intended to cover the Colton, Flagstaff, North Horn and the upper part of the Indianola. After setting the 20", Boart would be rigged down and Patterson rig #304 would be moved in to the finish the hole. When the North Horn and, in particular, the Indianola, were not encountered near prog depth, coupled with the issues encountered at Painted Rock Federal 29-1 drilling the same rocks, Wolverine decided to increase the conductor size to 22" and set it to 1425' (weight limit for this Boart rig), and then move in a larger Boart rig to set the 13-3/8" casing into the Arapien, which was anticipated near 4000'. The 22" conductor was set instead of the programmed 20" to allow the use of the 19" bit, which would facilitate cementing with Boart's tremie pipe and allow the use of parasite string (to be run on the outside of the 13-3/8" casing).

This decision to use the larger Boart rig and continue drilling to the Arapien was made to take advantage of the Boart reverse circulation method and minimize the problems that were encountered in the Painted Rock well. This decision was also predicated with reaching the Arapien near the prog depth of 4000'.

Drilling continued to 3829', where it was decided to set 13-3/8 casing because of deteriorating hole conditions (bit/pipe was stuck and worked free) which could not be improved. Rigged up and ran 13-3/8", 68 #/ft J-55 BTC (report date December 5, 2010) with a 1.9" parasite string. The casing was landed at 3769' (tagged fill at 3770') and cemented down casing with 1450 sacks 14.4 ppg, yield 1.05 cu. Ft/sack, 35:65 Poz mix. During cementing, the casing moved and investigations were undertaken to diagnose the problem. It was determined the casing parted at the air injection sub (part of the parasite assembly) coupling. The casing alignment assembly was run and the casing "re-aligned" and the annulus was cemented to surface with tremie pipe in multiple batches (total of 3170 sacks) of 15.6 ppg class "G" cement until cement was at surface. The injection sub/parasite string had likely separated and had to be squeezed to get a pressure test on the casing rendering the parasite string unavailable for future operations.

Drilling operations continued with Boart with a 12.25" bit to a depth of 6502', at which, not having reached Arapien, Boart was rigged down and moved off and Patterson rig #304 was moved-in to finish the well. Patterson commenced drilling with an aerated fresh water mud and drilled to 9482', where openhole logs were run. The 9-5/8" casing was run and landed at 9470' and cemented with a two stage cement job, as follows: Stage1: Lead-1320 sacks, 12.5 ppg, yield 2.12 cu. Ft/sack Class "G" plus additives followed by 625 sacks, 13.5 ppg, yield 1.26 cu./sack TXI-lite. Stage 2: Lead-625 sacks, 12.5 ppg, yield 2.12 cu. Ft/sack Class "G". Stage 2 was circulated to surface.

Table 2- Casing Setting Depths

	Hole Size	Proposed Depth	Actual Depth	Comment
32" conductor, 126.7#/ft, 0.375 wall	38"	72'	72'	Ran 32" conductor
20" conductor, 106.5 #/ft	26"	1200'	1424'	Ran 22" conductor
13-3/8", 68#/ft casing	19" ⁽¹⁾	4000'	3769'	Ran 13-3/8", 68# J55 BTC
9-5/8", 53.5 #/ft casing	12.25"	10,100'	9470'	Ran 9-5/8 53.3 # L-80
5-1/2" 20 #/ft casing	8.5"	12800'	NA	Did not run

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⁽¹⁾ Hole size was increased to 19" from 17.5" to accommodate parasite string on 13-38" casing.

After setting the 9-5/8" casing, shoe was drilled out, and the mud was swapped out for oil-based mud ("OBM"). The well was drilled with an OBM to TD of 11,204, where openhole logs were run. Wolverine decided to plug and abandon the well as a dry hole. Plugging requirements were obtained from Marvin Hendrick, BLM, and the following abandonment plugs were set in the well:

Plug 1: Set cement retainer at 9385' MD (displaced OBM out of hole with 9 ppg fresh water mud) and pumped plug #1 under retainer with 10 bbls water spacer, 17 bbls/84 sacks, 15.8 ppg, yield 1.16 cu. Ft/sack Class "G" cement, 10 bbls water spacer, then 124 bbls 9 ppg water based mud. Displaced 15 bbls below retainer and left 2 bbls cement on top of retainer. Pressure tested casing to 750 psi.

Plug 2: Set plug 2 at 6500'-6350' with 10 bbls water spacer, 10.6 bbls/52 sacks, 15.8 ppg, yield 1.16 cu. Ft/sack Class "G" cement (equivalent to 150 foot plug), and 3 bbls water spacer followed by 9 ppg FW mud.

Plug 3: Set 140-ft plug from 3845'-3705' with 10 bbls water spacer, 9.9 bbls/48 sacks, 15.8 ppg, yield 1.16 cu. Ft/sack Class "G" cement, 3 bbls water spacer followed by FW mud.

Set plug 4 at 1485' with 10 bbls water spacer, 7.8 bbls/38 sacks, 15.8 ppg, yield 1.16 cu. Ft/sack Class "G" cement, 3 bbls water followed by FW mud.

Set Plug 5 at surface with 3.2 bbls/16 sacks, 15.8 ppg, yield 1.16 cu.ft/sack Class G cement.

An above-ground post marker has been installed on the well location.

The OBM pit has been treated with Soli-bond and closed. The water based cutting has been closed; final surface reclamation should be finished fall 2011.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

FORM APPROVED
OMB No. 1004-0137
Expires: March 31, 2007

SUBMIT IN TRIPLICATE- Other instructions on reverse side.

1. Type of Well
☐ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator **Wolverine Operating Company of Utah, LLC**

3a. Address
55 Campau NW, Grand Rapids, MI 49503

3b. Phone No. (include area code)
616-458-1150

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

**SHL: 288' FNL, 452' FWL, Sec 32, T17S, R1E, NWNW
BHL: 149' FNL, 390' FEL, Sec 31, T17S, R1E, NENE**

5. Lease Serial No.
UTU-852536

6. If Indian, Allottee or Tribe Name
N/A

7. If Unit or CA/Agreement, Name and/or No.
N/A

8. Well Name and No.
Rough Canyon Federal 30-1

9. API Well No.
43039500030000

10. Field and Pool, or Exploratory Area
Exploratory

11. County or Parish, State
Sanpete, Utah

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input checked="" type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Please see attached report for plugging details.

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14. I hereby certify that the foregoing is true and correct
Name (Printed/Typed)

Edward A. Higuera

Title **Manager - Development**

Signature

Date

11/18/2011

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Title

Date

Office

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

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Operator: Wolverine Operating Company of Utah, LLC
Well: Rough Canyon Federal 30-1
Surface Location: Section 32, T17S, R1E
API Number: 43039500030000
Lease: UTU-82536
County/State: Sanpete, UT
Re: Plugging/Cement Plug Record

Plugging requirements were obtained from Marvin Hendrick, BLM, and the following abandonment plugs were set in the well:

Plug1: Set cement retainer at 9385' MD (displaced OBM out of hole with 9 ppg fresh water mud) and pumped plug #1 under retainer with 10 bbls water spacer, 17 bbls/84 sacks, 15.8 ppg, yield 1.16 cu. Ft/sack Class "G" cement, 10 bbls water spacer, then 124 bbls 9 ppg water based mud. Displaced 15 bbls below retainer and left 2 bbls cement on top of retainer. Pressure tested casing to 750 psi.

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Set plug 4 at 1485' with 10 bbls water spacer, 7.8 bbls/38 sacks, 15.8 ppg, yield 1.16 cu. Ft/sack Class "G" cement, 3 bbls water followed by FW mud.

Set Plug 5 at surface with 3.2 bbls/16 sacks, 15.8 ppg, yield 1.16 cu.ft/sack Class G cement.

An above-ground post marker has been installed on the well location.

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☒ No
Operator
logo

Actual Wellpath Report
Rough Canyon Federal #30-1 awp
Page 1 of 6



REFERENCE WELLPATH IDENTIFICATION

Operator	WOLVERINE GAS & OIL COMPANY	Slot	Slot #01 Rough Canyon Federal #30-1 (288°FNL & 452°FWL,SEC.32)
Area	UTAH	Well	Rough Canyon Federal #30-1
Field	SANPETE COUNTY	Wellbore	Rough Canyon Federal #30-1 AWB
Facility	SEC.32-T17S-R1E		

REPORT SETUP INFORMATION

Projection System	NAD83 / UTM Zone 12 North, US feet	Software System	WellArchitect® 3.0.0
North Reference	True	User	Balladoun
Scale	0.999664	Report Generated	6/15/2011 at 10:48:45 AM
Convergence at slot	0.53° West	Database/Source file	WellArchitectDB/Rough_Canyon_Federal_#30-1_AWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.00	0.00	1403147.25	14270941.25	39°17'40.135"N	111°50'19.188"W
Facility Reference Pt			1403147.25	14270941.25	39°17'40.135"N	111°50'19.188"W
Field Reference Pt			1403147.25	14270941.25	39°17'40.135"N	111°50'19.188"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on Slot #01 Rough Canyon Federal #30-1 (288°FNL & 452°FWL,SEC.32) (RT) to Facility Vertical Datum
Horizontal Reference Pt	Slot	Rig on Slot #01 Rough Canyon Federal #30-1 (288°FNL & 452°FWL,SEC.32) (RT) to Mean Sea Level
Vertical Reference Pt	Rig on Slot #01 Rough Canyon Federal #30-1 (288°FNL & 452°FWL,SEC.32) (RT)	Rig on Slot #01 Rough Canyon Federal #30-1 (288°FNL & 452°FWL,SEC.32) (RT) to Mud Line at Slot (Slot #01 Rough Can
MD Reference Pt	Rig on Slot #01 Rough Canyon Federal #30-1 (288°FNL & 452°FWL,SEC.32) (RT)	Section Origin
Field Vertical Reference	Mean Sea Level	Section Azimuth

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☒ No
Operator
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Actual Wellpath Report

Rough Canyon Federal #30-1 awp

Page 2 of 6



REFERENCE WELLPATH IDENTIFICATION

Operator	WOLVERINE GAS & OIL COMPANY	Slot	Slot #01 Rough Canyon Federal #30-1 (288'FNL & 452'FWL, SEC.32)
Area	UTAH	Well	Rough Canyon Federal #30-1
Field	SANPETE COUNTY	Wellbore	Rough Canyon Federal #30-1 AWB
Facility	SEC.32-T17S-R1E		

WELLPATH DATA (170 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]
0.00	0.000	225.900	0.00	0.00	0.00	0.00	0.00
50.00	0.590	225.900	50.00	-0.02	-0.18	-0.18	1.18
100.00	0.610	222.450	100.00	-0.07	-0.55	-0.55	0.08
150.00	0.580	223.060	149.99	-0.13	-0.94	-0.90	0.06
200.00	0.620	220.530	199.99	-0.20	-1.33	-1.25	0.10
250.00	0.690	222.770	249.99	-0.28	-1.75	-1.63	0.15
300.00	0.720	220.370	299.98	-0.37	-2.21	-2.04	0.08
350.00	0.840	227.710	349.98	-0.43	-2.70	-2.51	0.31
400.00	0.950	226.920	399.97	-0.47	-3.23	-3.09	0.22
450.00	1.110	226.220	449.97	-0.52	-3.85	-3.74	0.32
500.00	1.120	225.430	499.96	-0.58	-4.53	-4.44	0.04
550.00	1.320	225.160	549.94	-0.66	-5.27	-5.19	0.40
600.00	1.400	225.010	599.93	-0.76	-6.11	-6.03	0.16
650.00	1.520	225.800	649.91	-0.85	-7.01	-6.94	0.24
700.00	1.580	225.220	699.90	-0.95	-7.95	-7.91	0.12
750.00	1.630	226.080	749.88	-1.05	-8.93	-8.91	0.11
800.00	1.640	224.280	799.86	-1.16	-9.94	-9.92	0.10
850.00	1.720	225.350	849.83	-1.29	-10.98	-10.95	0.17
900.00	1.730	224.500	899.81	-1.41	-12.04	-12.02	0.05
950.00	1.750	223.580	949.79	-1.56	-13.14	-13.07	0.07
1000.00	1.830	224.260	999.76	-1.72	-14.26	-14.15	0.17
1050.00	1.900	225.600	1049.74	-1.86	-15.41	-15.30	0.16
1100.00	2.140	228.150	1099.71	-1.94	-16.61	-16.59	0.51
1150.00	2.070	226.380	1149.67	-2.02	-17.86	-17.94	0.19
1200.00	2.170	227.330	1199.64	-2.11	-19.12	-19.29	0.21
1250.00	2.180	227.020	1249.60	-2.19	-20.41	-20.68	0.03
1300.00	2.250	226.390	1299.57	-2.29	-21.74	-22.09	0.15
1350.00	2.370	227.650	1349.52	-2.39	-23.11	-23.56	0.26
1400.00	2.340	228.880	1399.48	-2.44	-24.48	-25.10	0.12
1450.00	2.440	229.900	1449.44	-2.45	-25.84	-26.68	0.22
1500.00	2.450	229.790	1499.39	-2.44	-27.21	-28.31	0.02
1550.00	2.560	228.330	1549.35	-2.47	-28.65	-29.96	0.25
1600.00	2.600	228.870	1599.29	-2.51	-30.13	-31.65	0.09
1650.00	2.600	229.850	1649.24	-2.53	-31.61	-33.37	0.09
1700.00	2.760	230.830	1699.19	-2.50	-33.10	-35.17	0.33
1750.00	2.930	229.240	1749.13	-2.49	-34.70	-37.07	0.37
1800.00	2.950	228.980	1799.06	-2.51	-36.38	-39.01	0.05
1850.00	3.070	229.550	1848.99	-2.53	-38.09	-41.00	0.25
1900.00	3.170	229.290	1898.92	-2.55	-39.86	-43.07	0.20
2000.00	3.140	232.410	1998.77	-2.44	-43.33	-47.33	0.17
2100.00	3.350	235.870	2098.61	-1.99	-46.64	-51.92	0.29
2200.00	3.580	241.570	2198.42	-1.04	-49.77	-57.08	0.41
2300.00	3.730	233.090	2298.22	-0.20	-53.21	-62.43	0.56
2400.00	4.030	227.040	2397.99	-0.17	-57.56	-67.60	0.51
2500.00	4.600	231.180	2497.71	-0.23	-62.47	-73.30	0.65



Actual Wellpath Report

Rough Canyon Federal #30-1 awp

Page 3 of 6



REFERENCE WELLPATH IDENTIFICATION

Operator	WOLVERINE GAS & OIL COMPANY	Slot	Slot #01 Rough Canyon Federal #30-1 (288'FNL & 452'FWL,SEC.32)
Area	UTAH	Well	Rough Canyon Federal #30-1
Field	SANPETE COUNTY	Wellbore	Rough Canyon Federal #30-1 AWB
Facility	SEC.32-T17S-R1E		

WELLPATH DATA (170 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]
2600.00	4.560	231.270	2597.39	-0.02	-67.47	-79.52	0.04
2700.00	4.470	229.970	2697.08	0.11	-72.46	-85.61	0.14
2800.00	4.720	229.250	2796.76	0.09	-77.65	-91.71	0.26
2900.00	4.700	230.030	2896.42	0.09	-82.97	-97.97	0.07
3000.00	4.580	230.110	2996.09	0.14	-88.16	-104.17	0.12
3100.00	4.890	229.190	3095.75	0.13	-93.51	-110.46	0.32
3200.00	4.840	228.960	3195.39	-0.11	-99.17	-116.77	0.20
3300.00	4.920	228.910	3295.03	-0.37	-104.87	-123.08	0.18
3400.00	4.920	228.820	3394.66	-0.42	-110.46	-129.59	0.08
3500.00	4.780	228.130	3494.30	-0.53	-116.00	-135.97	0.20
3600.00	4.920	228.290	3593.94	-0.75	-121.64	-142.27	0.14
3700.00	5.010	228.740	3693.57	-0.93	-127.37	-148.76	0.10
3800.00	4.710	223.520	3793.21	-1.44	-133.23	-154.87	0.53
3883.00	4.700	218.500	3875.93	-2.47	-138.36	-159.33	0.50
3955.00	4.790	218.810	3947.68	-3.61	-143.01	-163.05	0.13
4040.00	4.570	219.910	4032.40	-4.86	-148.37	-167.45	0.28
4135.00	4.790	218.190	4127.08	-6.29	-154.39	-172.33	0.27
4227.00	4.920	218.980	4218.75	-7.79	-160.48	-177.19	0.16
4336.00	4.790	217.710	4327.36	-9.61	-167.71	-182.91	0.15
4429.00	4.700	218.410	4420.04	-11.16	-173.77	-187.65	0.12
4522.00	4.700	218.410	4512.73	-12.65	-179.74	-192.39	0.00
4616.00	4.610	218.900	4606.42	-14.11	-185.70	-197.15	0.10
4716.00	4.610	219.200	4706.10	-15.60	-191.94	-202.21	0.02
4810.00	4.480	219.510	4799.80	-16.94	-197.70	-206.94	0.14
4903.00	4.610	218.280	4892.51	-18.32	-203.44	-211.56	0.17
4997.00	4.480	218.500	4986.21	-19.78	-209.28	-216.19	0.14
5028.00	4.480	218.280	5017.12	-20.25	-211.17	-217.69	0.06
5122.00	4.790	218.980	5110.81	-21.71	-217.11	-222.44	0.34
5214.00	4.700	218.800	5202.50	-23.14	-223.03	-227.21	0.10
5307.00	4.480	219.200	5295.20	-24.52	-228.81	-231.90	0.24
5413.00	4.480	218.980	5400.87	-26.04	-235.24	-237.12	0.02
5505.00	4.790	223.200	5492.57	-27.15	-240.83	-242.01	0.50
5598.00	4.790	224.080	5585.25	-27.97	-246.45	-247.37	0.08
5690.00	4.790	226.300	5676.93	-28.57	-251.87	-252.82	0.20
5782.00	4.790	227.300	5768.61	-28.96	-257.13	-258.42	0.09
5875.00	5.010	228.100	5861.27	-29.24	-262.47	-264.29	0.25
5968.00	5.010	227.910	5953.91	-29.48	-267.90	-270.33	0.02
6067.00	5.010	227.910	6052.53	-29.75	-273.70	-276.74	0.00
6162.00	5.010	229.500	6147.17	-29.89	-279.17	-282.98	0.15
6255.00	5.010	230.100	6239.81	-29.88	-284.42	-289.18	0.06
6350.00	5.100	229.090	6334.44	-29.89	-289.84	-295.55	0.13
6420.00	5.100	229.050	6404.17	-29.96	-293.92	-300.26	0.01
6551.00	4.790	230.720	6534.68	-29.93	-301.20	-308.89	0.26
6640.00	5.010	231.590	6623.35	-29.74	-305.97	-314.81	0.26
6738.00	4.920	235.290	6720.99	-29.18	-311.02	-321.62	0.34

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Actual Wellpath Report
Rough Canyon Federal #30-1 awp
Page 4 of 6



REFERENCE WELLPATH IDENTIFICATION			
Operator	WOLVERINE GAS & OIL COMPANY	Slot	Slot #01 Rough Canyon Federal #30-1 (288'FNL & 452'FWL,SEC.32)
Area	UTAH	Well	Rough Canyon Federal #30-1
Field	SANPETE COUNTY	Wellbore	Rough Canyon Federal #30-1 AWB
Facility	SEC.32-T17S-R1E		

WELLPATH DATA (170 stations)							
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	DLS (%/100ft)
6832.00	4.920	238.100	6814.64	-28.20	-315.44	-328.35	0.26
6924.00	5.190	241.570	6906.28	-26.77	-319.51	-335.36	0.44
7016.00	5.010	241.570	6997.92	-25.09	-323.40	-342.55	0.20
7117.00	4.920	244.470	7098.54	-23.08	-327.37	-350.34	0.26
7207.00	4.920	243.290	7188.21	-21.19	-330.77	-357.27	0.11
7313.00	5.100	247.680	7293.80	-18.66	-334.60	-365.69	0.40
7408.00	5.320	248.080	7388.41	-15.97	-337.85	-373.68	0.23
7503.00	5.710	246.800	7482.97	-13.19	-341.35	-382.11	0.43
7568.00	5.800	246.190	7547.64	-11.31	-343.95	-388.09	0.17
7596.00	5.800	245.480	7575.50	-10.52	-345.11	-390.67	0.26
7691.00	5.890	243.900	7670.01	-8.02	-349.25	-399.41	0.19
7741.00	5.800	245.470	7719.75	-6.71	-351.42	-404.01	0.37
7742.00	5.890	244.780	7720.74	-6.68	-351.47	-404.11	1.142
7775.00	5.890	244.600	7753.57	-5.80	-352.91	-407.17	0.06
7871.00	6.020	245.310	7849.05	-3.18	-357.13	-416.19	0.16
7967.60	6.200	243.990	7945.10	-0.53	-361.53	-425.48	0.24
8071.00	6.420	242.010	8047.87	2.08	-366.70	-435.60	0.30
8250.00	7.910	234.100	8225.47	5.16	-378.62	-454.42	1.00
8351.00	8.790	234.190	8325.40	6.29	-387.21	-466.31	0.87
8389.00	9.010	234.670	8362.95	6.78	-390.63	-471.09	0.61
8396.00	9.010	234.500	8369.86	6.87	-391.26	-471.98	0.38
8446.00	9.010	234.890	8419.24	7.55	-395.79	-478.37	0.12
8541.00	9.400	233.000	8513.02	8.67	-404.73	-490.66	0.52
8610.00	9.400	234.590	8581.09	9.48	-411.39	-499.75	0.38
8641.00	9.490	234.500	8611.67	9.91	-414.34	-503.89	0.29
8721.00	9.710	233.000	8690.55	10.85	-422.23	-514.65	0.42
8812.00	9.890	232.870	8780.22	11.72	-431.57	-527.01	0.20
8907.00	10.110	232.870	8873.78	12.63	-441.52	-540.16	0.23
9002.00	10.500	231.900	8967.25	13.43	-451.90	-553.62	0.45
9096.00	10.810	230.980	9059.63	13.95	-462.73	-567.21	0.38
9205.00	10.680	231.680	9166.72	14.53	-475.43	-583.07	0.17
9286.00	10.900	231.770	9246.28	15.07	-484.82	-594.98	0.27
9378.00	10.810	232.300	9336.64	15.77	-495.48	-608.64	0.15
9487.00	11.100	231.300	9443.65	16.53	-508.29	-624.91	0.32
9520.00	11.140	232.640	9476.03	16.78	-512.21	-629.93	0.79
9540.00	11.250	237.470	9495.65	17.14	-514.44	-633.11	4.72
9574.00	11.150	243.950	9529.01	18.40	-517.66	-638.86	3.71
9603.00	11.060	249.120	9557.46	20.02	-519.89	-643.98	3.45
9634.00	10.930	257.580	9587.90	22.38	-521.58	-649.62	5.22
9666.00	11.300	260.970	9619.30	25.43	-522.72	-655.68	2.35
9698.00	11.080	266.730	9650.69	28.91	-523.39	-661.85	3.56
9730.00	11.220	272.220	9682.09	32.86	-523.44	-668.03	3.35
9762.00	11.290	278.560	9713.47	37.32	-522.86	-674.24	3.87
9793.00	11.240	284.720	9743.88	42.09	-521.64	-680.16	3.88
9825.00	11.190	295.800	9775.27	47.48	-519.49	-685.98	6.73

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Actual Wellpath Report
Rough Canyon Federal #30-1 awp
Page 5 of 6

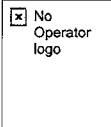


REFERENCE WELLPATH IDENTIFICATION

Operator	WOLVERINE GAS & OIL COMPANY	Slot	Slot #01 Rough Canyon Federal #30-1 (288'FNL & 452'FWL,SEC.32)
Area	UTAH	Well	Rough Canyon Federal #30-1
Field	SANPETE COUNTY	Wellbore	Rough Canyon Federal #30-1 AWB
Facility	SEC.32-T17S-R1E		

WELLPATH DATA (170 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]
9857.00	11.420	303.570	9806.65	53.36	-516.39	-691.41	4.81
9888.00	12.430	306.650	9836.98	59.56	-512.70	-696.64	3.85
9920.00	13.320	306.420	9868.18	66.50	-508.46	-702.37	2.79
9951.00	14.510	306.600	9898.27	73.76	-504.02	-708.37	3.84
9983.00	15.440	307.760	9929.18	81.83	-499.02	-714.95	3.05
10015.00	16.140	313.810	9959.97	90.43	-493.34	-721.53	5.59
10047.00	16.570	320.580	9990.68	99.41	-486.73	-727.64	6.10
10079.00	17.770	325.260	10021.26	108.84	-479.19	-733.32	5.72
10111.00	18.500	328.250	10051.67	118.72	-470.86	-738.77	3.70
10142.00	19.390	331.870	10080.99	128.61	-462.14	-743.79	4.75
10172.00	20.060	335.950	10109.23	138.42	-453.05	-748.23	5.10
10203.00	21.330	338.810	10138.23	148.85	-442.94	-752.44	5.23
10235.00	23.610	341.570	10167.80	160.30	-431.43	-756.57	7.85
10266.00	25.410	343.710	10196.00	172.14	-419.16	-760.40	6.47
10298.00	26.790	345.360	10224.74	184.91	-405.59	-764.14	4.87
10329.00	27.710	346.790	10252.30	197.63	-391.81	-767.56	3.64
10361.00	29.270	347.790	10280.42	211.15	-376.92	-770.91	5.10
10392.00	29.940	347.260	10307.38	224.70	-361.97	-774.22	2.32
10424.00	31.600	347.560	10334.87	239.19	-345.99	-777.79	5.21
10520.00	35.250	345.940	10414.98	286.29	-294.54	-789.94	3.91
10627.00	39.550	349.120	10499.97	343.69	-231.10	-803.88	4.40
10646.00	40.170	347.360	10514.56	354.39	-219.18	-806.36	6.77
10678.00	41.310	350.880	10538.81	372.57	-198.67	-810.30	8.01
10741.00	41.130	352.280	10586.19	407.82	-157.61	-816.38	1.49
10772.00	40.520	348.770	10609.66	425.21	-137.63	-819.71	7.66
10836.00	39.640	345.950	10658.63	461.70	-97.43	-828.71	3.15
10867.00	38.670	347.710	10682.67	479.12	-78.37	-833.18	4.76
10899.00	38.580	348.770	10707.67	496.67	-58.81	-837.25	2.09
10930.00	38.850	354.390	10731.86	513.11	-39.65	-840.08	11.37
10962.00	38.760	356.500	10756.80	529.39	-19.66	-841.67	4.14
10994.00	38.850	353.690	10781.74	545.73	0.31	-843.39	5.51
11025.00	38.850	353.340	10805.88	561.89	19.63	-845.58	0.71
11057.00	39.460	0.020	10830.71	578.01	39.78	-846.74	13.31
11089.00	40.340	2.130	10855.26	593.40	60.30	-846.36	5.04
11204.00	40.000	2.000	10943.13	648.21	134.43	-843.68	0.30



Actual Wellpath Report

Rough Canyon Federal #30-1 awp

Page 6 of 6



REFERENCE WELLPATH IDENTIFICATION

Operator	WOLVERINE GAS & OIL COMPANY	Slot	Slot #01 Rough Canyon Federal #30-1 (288'FNL & 452'FWL,SEC.32)
Area	UTAH	Well	Rough Canyon Federal #30-1
Field	SANPETE COUNTY	Wellbore	Rough Canyon Federal #30-1 AWB
Facility	SEC.32-T17S-R1E		

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Rough Canyon Federal #30-1 Crosses Section Line at 11448'MD		0.00	288.00	-905.00	1402245.26	14271237.53	39°17'42.981"N	111°50'30.700"W	point
Rough Canyon Federal #30-1 BHL REV-1 (1830'FSL & 810'FEL,30)		10785.00	2112.06	-1261.36	1401905.94	14273064.20	39°18'01.009"N	111°50'35.234"W	point
Rough Canyon Federal #30-1 BHL REV-2 (1830'FSL & 810'FEL,SEC 30)		12400.00	2112.06	-1261.36	1401905.94	14273064.20	39°18'01.009"N	111°50'35.234"W	point
Rough Canyon Federal #30-1 BHL Rev-3 (644'FSL & 514'FEL Sec 30)		12400.00	926.94	-966.02	1402190.19	14271876.79	39°17'49.296"N	111°50'31.476"W	point
Rough Canyon Federal #30-1 BHL Rev-4 (532'FSL & 584'FEL Sec 30)		12400.00	814.97	-1035.68	1402119.52	14271765.51	39°17'48.189"N	111°50'32.362"W	point
Rough Canyon Federal #30-1 BHL Rev-5 (1044'FSL & 650'FEL Sec 30)		12400.00	1326.95	-1101.51	1402058.46	14272277.90	39°17'53.249"N	111°50'33.200"W	point
Rough Canyon Federal #30-1 BHL Rev-6 (1045'FSL & 674'FEL Sec. 30)		12400.00	1327.65	-1125.83	1402034.15	14272278.83	39°17'53.256"N	111°50'33.509"W	point

WELLPATH COMPOSITION - Ref Wellbore: Rough Canyon Federal #30-1 AWB Ref Wellpath: Rough Canyon Federal #30-1 awp

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	1900.00	Gyrodatab standard - Continuous gyro	Gyro Data Actual Surveys <0' - 1900'>	Rough Canyon Federal #30-1 AWB
1900.00	3800.00	Gyrodatab standard - Continuous gyro	GYRODATA SURVEYS <2000-3800>	Rough Canyon Federal #30-1 AWB
3800.00	11089.00	ISCWSA MWD, Rev. 2 (Standard)	EXTREME MWD SURVEYS <3883-9378>	Rough Canyon Federal #30-1 AWB
11089.00	11204.00	Blind Drilling (std)	Projection to bit	Rough Canyon Federal #30-1 AWB

T 125 R 01E S-32 43-039-50003

From: "Bill Donovan" <boart@drillmail.net>
To: "Allen, Geoff" <geoff.allen@fmcti.com>, "Arthurs, Shane" <DArthurs@s...
Date: 1/9/2011 6:32 AM
Subject: Rough Canyon Federal 30-1 Update

1/9/2011 5:18 AM

CONFIDENTIAL

Trip for new bit. Hole depth 5,093'

Bill Donovan

Wolverine Operating Company of Utah, LLC

Rough Canyon Federal 30-1

AFE 224 API 43-039-50003-00-00

Rig (970) 361-3276

boart@drillmail.net

Cell (720) 351-7470

donovan@petroleum-eng.com

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JAN 10 2011

DIV. OF OIL, GAS & MINING

TMS ROIE S-32 43-039-50003

From: "Bill Donovan" <boart@drillmail.net>
To: "Allen, Geoff" <geoff.allen@fmcti.com>, "Arthurs, Shane" <DArthurs@s...
Date: 1/8/2011 9:51 AM
Subject: Rough Canyon Federal 30-1 Update

1/8/2011 9:49 AM

CONFIDENTIAL

Drilling at 5,027', PR 6 fph

Bill Donovan

Wolverine Operating Company of Utah, LLC

Rough Canyon Federal 30-1

AFE 224 API 43-039-50003-00-00

Rig (970) 361-3276

boart@drillmail.net

Cell (720) 351-7470

donovan@petroleum-eng.com

RECEIVED

JAN 10 2011

DIV. OF OIL, GAS & MINING

T 175 R 01E S-32 43-039-50003

From: "Bill Donovan" <boart@drillmail.net>
To: "Allen, Geoff" <geoff.allen@fmcti.com>, "Arthurs, Shane" <DArthurs@s...
Date: 1/7/2011 7:16 AM
Subject: Rough Canyon Federal 30-1 Update

1/7/2011 7:13 AM

CONFIDENTIAL

Drilling at 4,932', 3 fph

Bill Donovan

Wolverine Operating Company of Utah, LLC

Rough Canyon Federal 30-1

AFE 224 API 43-039-50003-00-00

Rig (970) 361-3276

boart@drillmail.net

Cell (720) 351-7470

donovan@petroleum-eng.com

RECEIVED

JAN 10 2011

DIV. OF OIL, GAS & MINING

T195 R01E 5-32 43-039-50003

From: "Bill Donovan" <boart@drillmail.net>
To: "Allen, Geoff" <geoff.allen@fmcti.com>, "Arthurs, Shane" <DArthurs@s...
Date: 1/10/2011 4:49 AM
Subject: Rough Canyon Federal 30-1 Update

1/10/2011 4:35 AM

Drilling at 5,110', PR 5 fph

CONFIDENTIAL

Bill Donovan

Wolverine Operating Company of Utah, LLC

Rough Canyon Federal 30-1

AFE 224 API 43-039-50003-00-00

Rig (970) 361-3276

boart@drillmail.net

Cell (720) 351-7470

donovan@petroleum-eng.com

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JAN 10 2011

DIV. OF OIL, GAS & MINING

Carol Daniels - Wolverine Rough Canyon Federal 30-1 update*T179 ROIE S-32 43-039-50003*

From: "Wolverine Exploration Rig"
To: "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,
"Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,
Carol" , "De la Torre, Juan C" , "Dennis" , "Denton, Derek" , "Dieste, Bobby" , "Doucet,
Dustin" , "Dustin Dunning" , "Foreman, Ron" , "George Zamantakis" , "Hall, Denise" ,
"Hammell, Hank" , "Harry Melnikoff" , "Hendricks, Marvin" , "Hutcinson, Clayton" , "Jim
Barry" , "Jimmy Germon" , "Jones, Mark" , "KC Schultz" , "Kent Donner" , "Kulow, Kyle" ,
"Kyle Cox" , "LaDee Roundy" , "Larimore, Mark" , "Lewis, John" , "Martin Pete" , "Marvin
Hendricks" , "Matt Harmon" , "McCoy, Charlene" , "McCoy, Tim" , "Nilles, Chris" ,
"O'Connell, David" , "Perry, Bud (Smith Bits)" , "Pickup, Marc" , "Rees, John M" , "Revert,
Scott" , "Robinson, Darin" , "Ryan Thomas" , "Shaun Burns" , "Shawn Moulton" , "Shelton,
Shorty" , , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis,
Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"
Date: 2/14/2011 7:29 AM
Subject: Wolverine Rough Canyon Federal 30-1 update

2/14/2011 7:26 AM

Rig Repair

Tom Zupan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rig (970) 812-0022
Cell (970) 314-8219
Fax (435) 304-1222
wolvexpl@drillmail.net

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FEB 14 2011

DIV. OF OIL, GAS & MINING

Carol Daniels - Wolverine Rough Canyon Federal 30-1 update*T 175 R01E S-32 43-039-50023*

From: "Wolverine Exploration Rig"
To: "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,
"Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,
Carol" , "De la Torre, Juan C" , "Dennis" , "Denton, Derek" , "Dieste, Bobby" , "Doucet,
Dustin" , "Dustin Dunning" , "Foreman, Ron" , "George Zamantakis" , "Hall, Denise" ,
"Hammell, Hank" , "Harry Melnikoff" , "Hendricks, Marvin" , "Hutcinson, Clayton" , "Jim
Barry" , "Jimmy Germon" , "Jones, Mark" , "KC Schultz" , "Kent Donner" , "Kulow, Kyle" ,
"Kyle Cox" , "LaDee Roundy" , "Larimore, Mark" , "Lewis, John" , "Martin Pete" , "Marvin
Hendricks" , "Matt Harmon" , "McCoy, Charlene" , "McCoy, Tim" , "Nilles, Chris" ,
"O'Connell, David" , "Perry, Bud (Smith Bits)" , "Pickup, Marc" , "Rees, John M" , "Revert,
Scott" , "Robinson, Darin" , "Ryan Thomas" , "Shaun Burns" , "Shawn Moulton" , "Shelton,
Shorty" , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis,
Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"
Date: 2/12/2011 7:08 AM
Subject: Wolverine Rough Canyon Federal 30-1 update

2/12/2011 7:06 AM
Rig Repair

Tom Zupan
Drilling Supervisor
Wolverine Gas and Oil Company of Utah, LLC
Rig (970) 812-0022
Cell (970) 314-8219
Fax (435) 304-1222
wolvexpl@drillmail.net

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FEB 14 2011

DIV. OF OIL, GAS & MINING

Carol Daniels - Wolverine Rough Canyon Federal 30-1 update**T/TS ROIE 5-32 43-039-50043**

From: "Wolverine Exploration Rig"
To: "Ainge, Jeff" , "Allen, Geoff" , "Arthurs, Shane" , "Blair, Richard" , "Brock Pope" ,
"Chamberlain, Don" , "Childers, Eli" , "Chris Schaugaard" , "Daniel Jenkins" , "Daniels,
Carol" , "De la Torre, Juan C" , "Dennis" , "Denton, Derek" , "Dieste, Bobby" , "Doucet,
Dustin" , "Dustin Dunning" , "Foreman, Ron" , "George Zamantakis" , "Hall, Denise" ,
"Hammell, Hank" , "Harry Melnikoff" , "Hendricks, Marvin" , "Hutcinson, Clayton" , "Jim
Barry" , "Jimmy Germon" , "Jones, Mark" , "KC Schultz" , "Kent Donner" , "Kulow, Kyle" ,
"Kyle Cox" , "LaDee Roundy" , "Larimore, Mark" , "Lewis, John" , "Martin Pete" , "Marvin
Hendricks" , "Matt Harmon" , "McCoy, Charlene" , "McCoy, Tim" , "Nilles, Chris" ,
"O'Connell, David" , "Perry, Bud (Smith Bits)" , "Pickup, Marc" , "Rees, John M" , "Revert,
Scott" , "Robinson, Darin" , "Ryan Thomas" , "Shaun Burns" , "Shawn Moulton" , "Shelton,
Shorty" , "Steffen, Dana" , "Tujillo, Chris" , "Tyler Ross" , "Willis, Walton" , "Willis,
Walton Home" , "Winkler, Matt" , "Zimmerman, Bill"
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Rig Repair

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